

A FIELD GLASS CAMERA.

A camera which, when folded, has the appearance of a field glass case with shoulder strap attached, is shown in closed and open position in the accompanying illustration, the view of the case when open, as it would be used in taking pictures, having parts broken away to show the interior. By pushing in small pins on each side a spring catch is released, and the camera is thrown into wide open position for the reception of a plate holder at the rear. The lens is in the narrow front end of the case, and is covered by a shutter, operated in a simple manner to give instantaneous exposures, there being also a sliding cover which may be used for time exposures. The finder is at one side of the lens, and may be turned so that the sight may be used to take pictures both ways of the plate, either vertically or horizontally. The plates are $3\frac{1}{4}$ by $4\frac{1}{4}$ inches in size, each holder carrying two plates. A number of the holders may be conveniently carried in the pocket. The case being opened, the plate holder is introduced, the shutter set, and the flexible slide withdrawn, as shown in the view, when it is only necessary further to press the finger on the button near the objective. The whole process is but the work of a moment, and, the instrument having a first class objective, an excellent picture can ordinarily be obtained. This camera seems to be an almost ideal hand apparatus, as it has the appearance simply of a glass such as travelers frequently carry. The frame is of metal, but is quite light, and is covered with yellow or black leather, the whole construction being designed to render the apparatus equally useful in all climates, thus especially fitting it for the use of explorers and tourists.

This camera is of foreign manufacture and is imported and introduced here by Mr. L. Manasse, of No. 88 Madison Street, Chicago.

Relics from Denmark.

The peat bogs of Jutland, Denmark, have been yielding some very remarkable symbolic records in the shape of plates of silver, hammered out with figures of men, women, and animals. The eye holes of the figures are now empty, but had evidently been filled with glass. One of the plates, which is nearly seventeen inches long, shows warriors, with helmets and other ornaments. One figure is a god with a wheel at his side, and on another are two elephants. A third shows a horned god in a sitting posture with his legs crossed orientalwise. All these have apparently nothing to do with northern mythology, as was first supposed. The whole find has now reached the Danish National Museum, and we see that these pieces belong to the godlore of the Gallic peoples. The god with the wheel, for instance, is the Gallic sun god. The whole is the work of a Gallic artist at that early period when the Roman and Gallic peoples first came in contact. Allowing time for these things to wander so far north, the date would seem to be, as regards Denmark, the first century before Christ. Other things belonging to this Gallic group have been found previously in this country. The total weight of precious metal hitherto exhumed is about twenty Danish rounds.—*Amer. Antiquarian*.

Dangers of Ammonia.

BY PROF. W. K. BURTON.

The author says in *Photographic Work*: I protest against the very strong ammonia made particularly for photographic work, because of its highly dangerous nature, because such ammonia is always of very uncertain strength a little time after the bottle has been opened, on account of its great volatileness, and because there is so slight an advantage in this exceeding concentration.

The following accident has twice happened with the writer: A bottle of ammonia was opened. For a few seconds nothing took place, but then suddenly ebullition began at the bottom of the liquid, and three quarters of the contents of the bottle were violently discharged against the ceiling of the room. The force of discharge may be judged when I say that in one case the room was thirteen feet high and the bottle was on the floor when it was opened.

In neither of these two cases was there any serious result. In one (the bottle holding half a gallon), the occupants of the house had to take to the street, and could not enter the house again for some half hour or so.

I have, however, recently heard of a case where the contents of a bottle of ammonia discharged themselves as I have described, and a part of the liquid being blown into the eye of the operator, he totally lost the use of that organ.

In England this very strong ammonia is bad enough, but in climates where the weather is sometimes hot it is much worse. With the thermometer above 90° F. in the shade I would much rather handle nitro-glycerine than "0.88 ammonia."

And how small is the gain from this extreme concentration! Why was it ever considered necessary to have a stronger ammonia than the liquor ammoniac fortior of the British Pharmacopœia? The specific gravity of this ammonia is 0.891, it contains only about 10 per cent less actual ammonia than "0.88 ammonia," yet is far less dangerous.

I should, however, strongly advise the adoption of ammonia of 0.9 specific gravity as a standard for photographic purposes. Such a liquid contains about 20 per cent less ammonia than "0.88 ammonia" (involving an increase in the quantity of solution used of one quarter, or 25 per cent). It is much less liable to lose strength by volatilization, and it is not nearly so dangerous as the very concentrated ammonia made for photographic purposes.

Baldness and its Treatment.

There are two classes of patients who resort either to the profession or to quacks—generally to the latter—for aid in the production or reproduction of hair in those parts of the scalp or face where it ought to grow, but owing to age or disease fails to do so. There is, first, the youth who from vanity or a desire to improve his chances of employment wishes to don before his time those hirsute appendages which are universally regarded as the outward sign of manhood. To him, in spite of the confident assertions of nostrum adver-

This, by attracting an increased blood supply to the part, is often useful, no doubt, where the baldness is due to mere sluggishness of the cutaneous circulation, but it fails altogether to reach the cause of that very large class who lose their hair from seborrhœa capitis. This is benefited by microbicide remedies—sulphur, mercurial applications of almost all kinds, and many other antiseptic drugs, both new and old. We do not know what particular microbe, among the legion which may be found in the greasy and dry scales in seborrhœa, produces the proliferation of epithelium, which, according to Unna, is directly due to an inflammatory process; but the effect on the follicle is such that it leads to atrophy of the hair, and if the disease is not arrested, atrophy of the whole follicle and consequent permanent alopecia.

Where the damage to nutrition is not so great, the hair is lusterless and more or less marked canities ensue, and then the hair restorers, which color the hair from without and not from within, are eagerly resorted to. Sulphur and acetate of lead form frequent ingredients of these applications, while perchloride of mercury is too frequently the leading ingredient of a large number of vaunted remedies. No doubt it is of high value as a microbicide when employed in suitable cases, but used indiscriminately for months or even years injurious effects may be, and sometimes are, produced. Pilocarpine, hypodermically injected or given internally as tincture of jaborandi, is certainly of value as a direct promoter of the growth of hair, but it is too powerful a remedy for indiscriminate use, and the copious perspirations and sometimes the cardiac depression it induces should keep its employment within

narrow limits. Less direct means may be found in tonics of iron, strychnine, quinine, etc.; but more powerful are cod liver oil and change of air, generally to a bracing climate. It will be seen from the foregoing remarks that baldness is a symptom of such diverse conditions that there is no routine treatment for it, but the cause must be carefully sought out and intelligently treated, while the local treatment must be diligently and perseveringly carried out, as when due to its most common cause, seborrhœa, relapses are the rule, and constant watchfulness against recurrence is accordingly required.—*Lancet*.

The Saxon Tunnel Works Suspended.

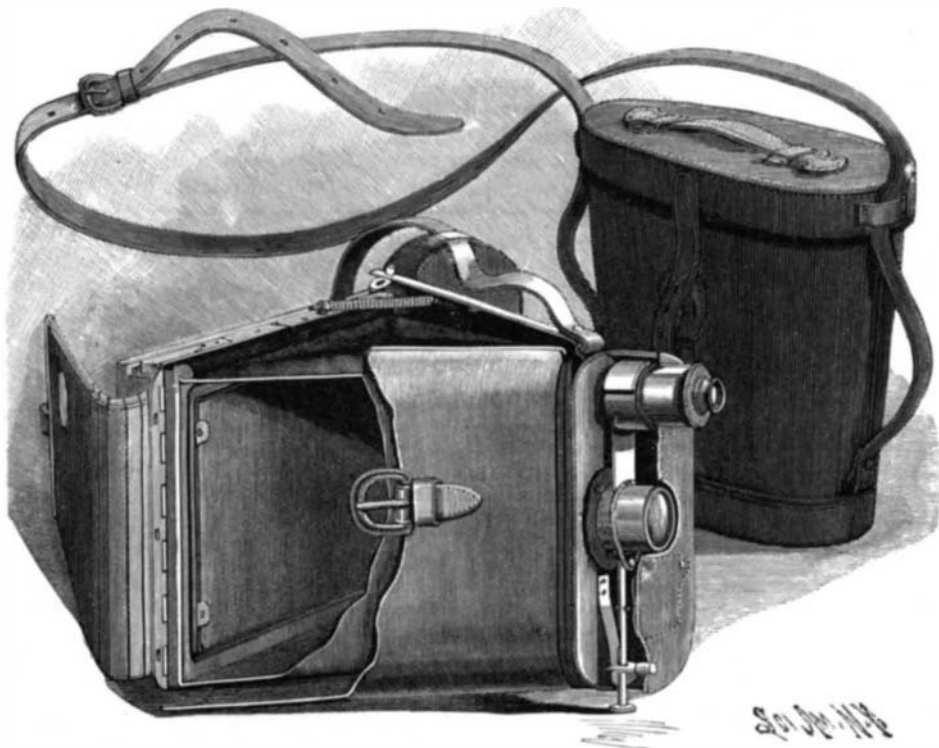
In consequence of the fall in the price of silver, the Saxon government has decided not to complete its work on the Rothschoenberger Stollen, which, if completed, would be the longest tunnel in the world. The tunnel was intended to drain the water from all the Freiberg silver mines and carry it to the Elbe. The main tunnel is 9 miles

long, but its branches add 21 miles to its length, making the total extent almost 30 miles. The tunnel was begun at state expense in 1844, and after thirty-three years of continuous work it was opened in April, 1877.

Hundreds of men are thrown out of employment by the government's decision, and it is expected that many more will follow, as the Freiberg mines cannot be worked without great loss at the present price of silver. Work in the mines was begun in 1200, and since that time the mines have produced 9,500,000 Prussian pounds, equal to 151,860,500 troy ounces of silver.

Electric Luminosity of Vacuum Tubes.

In the course of a discussion before the British Association on a paper by Professor Schuster on "Primary and Secondary Cells," Mr. Crookes stated that if a long vacuum tube containing oxygen exhausted to a point giving the greatest luminosity is held somewhere near a plate connected with one of the terminals of a high tension coil, it becomes very luminous. If the tube has been lighted and put in a cool, dark place, and thereafter held near a coil, it remains dark, and no amount of placing it near the coil will make it luminous. If the tube is rubbed, it suddenly flashes into luminosity, and remains so; but if laid down in a dark room for an hour, it becomes non-sensitive again. It seemed to him that the gas inside the tube requires to be put in a state of disassociation. Professor H. Von Helmholtz, who was one of the lions of the meeting, said he believed that in these vacuum tubes, if there is a little stratum of gas adhering to the surface there are always molecules, which can be separated into positive and negative. There is really a measurable stratum of air adhering to the interior of the glass tubes. If a rarefied vacuum is made, the greater part of that air goes away; but there are always traces of gas left, even in the vacuum of a glass tube which is completely melted.

**A FIELD GLASS CAMERA.**

[FOR THE SCIENTIFIC AMERICAN.]

On a Cholera Ship in 1853.

I lived in Bangor, Maine, in 1849 and 1850, when the Asiatic cholera visited that city. I had a contract for a large lot of doors and sash for the United States government to be shipped to California for some government building, I then being in that business.

I had but fairly commenced on the work when the scourge broke out. My partner, a Mr. Wing, fled with his family to the country. Deaths were soon rated at one to two hundred daily. People there were generally panic-stricken, and the city was deserted. Many of my workmen left, so I mustered all of the pluck and courage that nature gave me and determined to live or die at my work bench. My family, then only wife and one child, lived a little out of the city. At 7 o'clock every morning I was in my workshop, and 10 to 11 o'clock at night often found me there. Coffins could not be supplied in sufficient quantity to bury the dead, and I was besought to make coffins, but my government contract prevented my doing so.

While at my work bench I saw one man die in a dirty cellar kitchen. There were few if any regular funerals, but daily coffins or boxes with the dead were seen going with the poor victims to their final rest. It commenced there in the lowest, filthy localities of the place, and from there went among the richest localities. I could form no other verdict than it being a scourge of *intemperance, dirt, and filth* and of *very high living*. I did not change my method or style of living; ate fresh vegetables, fruit, meat, and melons. I had never poisoned myself with tobacco, beer, or spirituous liquors of any kind, took my baths regularly, and lived as cleanly as possible.

There was a medical fraternity called the Hot Crops, and they had what was then called a Hot Crop hospital. The very first thing that they did was to give a cholera patient a dose so hot that it would almost burn his vital organs. I tasted the stuff, and it was like eating red peppers, that would make the tears run, and it was admitted that they were the most successful of any class of practitioners. It died out with

the fall frosts, and there ended the most terrible scourge that I was ever witness of or ever hope to see again. I lost money on my contract, but got out alive.

December 7, 1852, I sailed from New York City on steamer Uncle Sam for California, via the Isthmus of Panama. We were seven days on that filthy malaria and turkey buzzard region, with a railroad to the Chagres River only, where we were boated by natives in almost a nude state up the river to Cruces, and from there on mule back or on foot (the latter I chose) until we reached Panama. There we took the steamer Cortez, with as stern an old sea captain as ever stood before a mast. I had a second cabin ticket. Imagine going from the State of Maine in midwinter, with the system and blood prepared for 10° below zero, and in a few days in a tropical climate at 100 to 110 in the shade, and one imagines the change and contrast! No sooner had we left land than a high fever set in, and such a headache I never bore in my life. My first thought was ice water, but ice could not be bought. The small amount was used only at the bar. I watched where the bartender came to get it out of a small room. I stood there with my blanket, and as his back was turned I grabbed a piece quite the size of a water bucket, rolled it up and slipped around the corner and off, rolling it up and hiding it, and the last I heard of the bartender was "Stop that man!" but I did not stop until I had my prize hid safely in the bow of the ship. I then got a lady to sew a piece of oil silk together and make me a bag. I slept three days and nights by my ice, punching off small pieces, and swallowing them and keeping a little in my oil silk bag on my forehead. When my ice was gone my fever went with it and I was on deck again.

The second day out from Panama death commenced from Panama fever, as it was called, and such a condition as there was among the poor steerage passengers cannot be described, and myself one of a very few who was able to render any assistance. I went to the old captain and begged him to allow me to take a few dainties from the cabin to the poor steerage passengers. At first he refused, but I pleaded so hard that he finally

yielded and took me to the head steward and gave directions to only allow me to take anything out of the cabin, and cautioned me to be extremely prudent and cautious, which I was. Soon the Asiatic cholera broke out, and a poor victim would die in terrible agony inside of an hour. They would be apparently well, and all at once in terrible agony, so that they could not stand, and then in a short time all was over and the body sewed up in a blanket and the feet weighted, and they were slid off a board behind the wheel after reading the Episcopal burial service. The mighty deep was their grave.

I finally persuaded the mate and ship physician to make beds in clear weather on the bow deck, and all that were possibly able to be got there were taken. This gave them fresh sea air, and, I think, saved many lives. But as near as I could keep count about 70 out of 700 passengers died on that cholera-stricken ship. It was said to be the most fatal trip to the Golden State up to that time.

J. E. EMERSON.

Plumbiferous Glass Wool.

In the course of gas-analytic operations the author caused gases containing sulphureted hydrogen to traverse a plug of fine white glass wool, as obtained in commerce. The wool was blackened, and on further investigation it appeared that the blackening was due to the formation of lead sulphide. Hence a plumbiferous glass had been used for the production of the glass wool. In various analytical operations where glass wool is used the presence of lead is objectionable. Nor can such material be used, as recommended, for filtering acids, since they may become contaminated by taking up lead.—*L. Blum, in Zeitschrift für Anal. Chemie*, xxxi.

THE sailing ship Roanoke, launched at Bath, Me., lately, is said to be the largest wooden ship afloat. Her length is 311.2 ft.; breadth, 49.2 ft.; depth, 29.2 ft.; height under spar deck, 9 ft.; gross tonnage 3,539 and net tonnage 3,400.4. She is designed for the California trade.

RECENTLY PATENTED INVENTIONS.
Mechanical.

WRENCH.—John Ryan, New York City. This is a wrench composed of but few parts, each of which can be economically and strongly made, and the wrench can be quickly and conveniently operated wherever a pipe wrench is to be employed. The sliding section of this wrench has a longitudinal slot around which are teeth, and the locking device consists of a pin turning in the shank or the fixed section and passing through the slot of the sliding section, a toothed locking plate engaging with the teeth of the sliding section and carried by the pin.

TOOL HANDLE.—Albert Landon and Louis Martel, Rutland, Vt. This invention provides a simple and durable handle capable of containing a number of tools—such as a putty knife, screw driver, and awl—the tools when not in use being concealed in the handle without being removed from attachment thereto. A lock or latch which keeps the cover of the handle closed is used to throw the tools up from the handle so they may be grasped. While one tool is rigidly held in operative position the others are concealed and locked in the handle. This combination device may be carried in the pocket.

BORING MACHINE.—Jonathan W. Day, Crystal Springs, Miss. This is a novel contrivance for boring inclined apertures into the stumps of trees to form draught channels to facilitate the burning out of the stumps, or for boring apertures in logs, timber and other articles. It consists of a truck frame on which are mounted inclined slotted ways, in which slides a frame with a crank-shaft carrying a gear adapted to operate an auger mounted in the frame. The machine is of simple and strong construction and can be readily moved about from place to place.

MORTISING MACHINE.—Erik J. Givold, Eagle Mills, Mich. This invention provides a moderate priced machine, with readily adjustable attachments, for use in cutting base blocks, corner blocks, and finishings for the interior of houses, or the machine may be readily converted into an implement for use as an ordinary mitering machine or a dadoing machine. Attachments are also provided for the machine whereby shingles may be cut in a number of fancy shapes.

Miscellaneous.

SCALE ATTACHMENT.—Louis F. Robare, Au Sable Forks, N. Y. This invention provides a simple and durable construction designed to render the beam noiseless at the fork, contacts made of soft material being arranged at the contacting points of the scale beam with the fork. On the underside of the end of the beam is a contact of rubber or other soft material, so that when the beam swings downward the noise is deadened when the contact strikes the cross bar. The locking lever is formed with a fork in which is journaled a rubber roller, adapted to engage the top of the beam end, thus deadening the noise when the beam swings upward.

SEALING DEVICE.—Ludwig Wurzburg, London, England. As an improved article of manufacture, a nail for use in sealing boxes, etc., is provided by this invention, the nail having a split shank, whose lower portion has one or more transverse apertures adapted to receive a sealing wire or cord, or a combination of two or more flanged nails may be similarly used. By means of this improvement a box, case or

package may be fastened in such a manner as to indicate whether or not it has been tampered with.

SHAFT TUG.—Joseph L. Gregory, Washington, Mo. This tug is made of two metallic sections screwed together, and having flanges around their inner edges forming a groove in which a packing ring of leather or similar substance is held to project, to constitute a cushion upon which the shaft is supported, and against which it may rub and strike. The shaft is thus held from contact with the metal frame and jar and rattling are avoided.

RICE SCOURER.—Squire A. Pickett, Crowley, La. In a nearly cylindrical casing supported on a suitable frame, and having a feed hopper at the top and damper openings at the bottom, a shaft carrying pairs of beaters is arranged to be rapidly revolved. In the lower half of the casing are openings closed by gratings or wire netting, affording ventilation to prevent undue heating of the rice, and permitting the dust and scoured-off rice skin to escape.

PLANNER FOR ICE ELEVATORS.—William H. M. Smith, Brooklyn, N. Y. The planer body is, according to this invention, held at an inclination above the elevator, and provided with several series of knives, one in rear of the other, the knives of the several series being in alignment, while means are provided for adjusting the inclination of the planer body and locking it in position. The machine is also especially designed to facilitate the removal of snow ice from the ice blocks in a manner to prevent the waste of good ice.

FOLDING BED.—William S. Nevins, Terre Haute, Ind. This invention provides a bed of simple and inexpensive construction which may be manipulated without the use of weights. The bed is pivoted within a casing, to the base of which and to the head portion of the bed back of the pivot springs are attached, while spring-pressed levers fulcrumed in the base have constant bearings upon projections formed at the sides of the bed. Handles on the sides of the bed are adapted to engage latches on the sides of the casing. In the back of the casing are shelves on which may be placed pillows or surplus bedding.

MILK RECEIVER.—Silas J. Morgan, La Grange, Ill. A box or casing with chutes to receive and conduct milk and cream to receptacles has been designed by this inventor, the box having scales to weigh the milk as delivered and a pocket for the reception of tickets, while an indicator visible from the exterior notifies the milkman of the required quantity of milk for which the scales and receptacle have been arranged.

STEREOPTICON AND MAGIC LANTERN DEVICE.—Horace W. Force, Newburg, N. Y. This invention covers anovelslide and shutter, with connected mechanism, for the successive exposure of different pictures in such manner that there will be a practically instantaneous change of views, without showing them in motion on the screen. The mechanism is so arranged that the shutters close and open while the carrier is stationary, the improvement also dispensing with the necessity of using in all cases a "double dissolving" instrument.

BOW FOR STRINGED INSTRUMENTS.—Emil A. Kretschmer, Horicon, Wis. A slide mounted on the bow staff, according to this invention, has a transverse threaded aperture through which a screw extends into contact with the staff, the head of the screw having a concave outer face to receive the end of

the thumb. This improved bow is designed to enable the player, especially a beginner, to more readily hold the bow in correct, easy position, without danger of its slipping.

BRACELET.—Louis Cremonesi, New York City. This bracelet consists of an endless spring formed into a series of open loops and links held to span every two loops, the links being doubled around the loops and having widened and inwardly curved free ends. The bracelet has a good deal of elasticity, so that it may be made quite small and still be readily slipped over the hand. The construction favors its manufacture in very effective designs.

POUND NET.—George Williams and Albert A. Cleveland, Astoria, Oregon. This net consists of a lead proper, heart, tunnel, and pot, of the ordinary construction, but with guards arranged in series alongside of and a short distance from the lead, the guards being short lengths of net and spiles in hook shape, with the end of each guard section lapped slightly past the adjacent end of the next section, whereby the fish meeting the lead of the net will be prevented from drifting back too far away from the lead, and their entrance into the heart and pound will be insured.

HANDLE HOLDER FOR BRUSHES, ETC.—William E. Barnett and Bennet R. Chalk, Mount Washington, Md. This device comprises two separated sockets, between which the handle is pivoted, provided with opposite lugs adapted to extend into the sockets and be there secured. By this means the handle may be fixed at one or the other side of the brush, and conveniently changed from side to side to equalize the wear.

Designs.

SPOON.—Richard E. Acton, Alexandria, Va. This spoon has on its handle end a miniature likeness of Gen. George Washington in court dress, his right hand grasping a staff and his left resting on his sword, while within the bowl is a representation of the old Christ Church at Alexandria, Va., which Washington attended.

METAL BORDER.—Charles Osborne, New York City. The leading feature of this design is a serpentine figure in relief, its surface having a roughened, bark-like effect, while at alternate bends are flower-like figures, making a metal border especially adapted for dishes of various kinds.

TRIMMING.—Charles Lexow, Rosebank, N. Y. This design presents loops and sets of straight lines, all radiating from a common center on a band, rope, or braid-like figure, producing a rib of semicircular or circular cross section.

TRIMMING.—Henry M. Sacks, Madison, N. J. A series of connected scallop or crescent-like figures is presented by this trimming, the upper portion having a cord-like appearance and the remaining portion having a fringed, feathery, or fur-like effect.

TRIMMING.—Henry M. Sacks, Madison, N. J. This design presents a series of spire-like figures having a cord-like effect, each figure having a central stem and curled tendrils at each side, and the figures holding suspended a feathery skirt figure or drapery.

CLASP.—Sara Baxter, New York City. This is an ornamental garment clasp, with two body portions, one representing a spread eagle and the other a Maltese cross on which is a five-pointed star, the

clasp chains extending from the bill of the eagle to the top of the cross.

NOTE.—Copies of any of the above patents will be furnished by Munn & Co., for 25 cents each. Please send name of the patentee, title of invention, and date of this paper.

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