

**Removal of Hair from the Face.**

We frequently have inquiries, chiefly from ladies, who find their beauty marred, as they think, by growth of hair on the lips or other portions of the face, for a recipe or method by which they can get rid of their trouble. Caustic alkalis have been recommended; but they injure the skin and the hair soon grows again; the razor no lady likes to use. The only permanent remedy appears to be the absolute destruction of the follicle by electricity, the hairs being killed one by one. The operation is tedious, and is thus performed by Dr. John Butler, of this city:

The patient being seated in a chair in a semi-reclining position, the head well supported, and the face opposite a strong light, the operator selects the hair for the first attack, takes hold of it in a pair of forceps, making it tense by gentle traction.

A moistened sponge electrode from the positive pole of the battery having previously been placed on the back of the neck, or fixed at some other convenient adjacent spot, a three cornered needle with sharp cutting edges set in a suitable handle and attached to the negative pole of the battery, is made to enter the hair follicle, alongside the hair, care being taken to make the needle penetrate to the entire depth of the follicle. The action of the current soon causes a few bubbles of the viscid froth alluded to, to be observed. As soon as this evidence of electrolytic decomposition manifests itself, the needle should be rotated a few times, so as to cause the sharp corners of the needle to scrape away the *débris*, and allow electrical contact with a fresh surface. The operation is continued until the hair becomes quite loose, and comes away with the very slightest traction, the whole operation lasting a very much shorter time than it takes to describe it. The operator then proceeds with the next hair in like manner, and so on with the whole series, as many as there are to be removed, or as long as the patient can bear it. It is by no means a painful procedure (except in trichiasis), but is usually complained of as a disagreeable sensation. There is a great difference in patients, however, in this regard; some will tolerate a seance of half an hour or even more; indeed, I had one patient who stood it, or rather sat it out, unflinchingly and uncomplainingly, for over an hour, and would willingly have allowed the seance to be continued much longer, but that the operator's eyes became so tired that it was impossible to proceed. I should not omit to mention that I use a modification of a jeweler's magnifying glass, which I had made for me by Meyrowitz Brothers, the well-known opticians. It consists of a lens with a four inch focus set in a cork cap, for the sake of lightness, and made of such a shape as to fit the eye, and is readily held there as a single eyeglass is made to do.

Even with the lens the operation is fatiguing to the eyes; but without it it is almost impossible to continue the seance uninterruptedly for over ten or twelve minutes, and then it must necessarily be done in an unsatisfactory manner, as it is impossible to see how the details are being carried out. With the lens, a skillful operator ought to be able to destroy about three or four hairs to the minute, and continue the seance half an hour. It will be noticed that I have laid great stress upon the non-removal of the hair previous to the destruction of the papilla; this is one of the principal points in the operation, for as long as the hair remains in, we have a positive guide as to the direction of the follicle, and when it becomes loosened, from the action of the current, it may be taken as almost proof that the papilla has been entirely electrolyzed. I use the word "almost" advisedly, as about ten to twenty per cent of the hairs acted upon return, and have to be electrolyzed the second time.

The points of the operation for which I claim originality are: the shape of the needle, and the rotatory movement thereof; the construction of the lens, and the mode of holding it as adapted to its special use; the advisability of leaving the hair in situ, until the chemical action of the current effects its loosening.

**The Cultivation of Vaccine Virus.**

Dr. Martin, of Boston, was the first American physician who, in view of the danger attending the use of vaccine virus taken from the human body, experimented successfully upon a return to Dr. Jenner's original method of using the bovine virus. Dr. Foster, of New York, and in 1867 Dr. Robbins, of Brooklyn, followed Dr. Martin's example, and Dr. Robbins, with his associate, Dr. Lewis, is now engaged in the production on a large scale, of virus derived from Beaugeney stock, upon which they have "ingrafted" the celebrated Vincennes stock, to procure which Dr. Robbins made a special visit to France. It is worthy of note, however, that the original stock is just as potent as ever, though its power varies according to the constitution of the animal from which it has been obtained. The *modus operandi* is to select the best calves—heifers being preferred—at an age varying from a few days to a year or even more, but the younger the better, the animals being the more easily handled. If the subject is a small one it is thrown upon its side upon a table, and its fore feet and head being secured, its hind legs are stretched apart and spots upon the belly six or eight inches wide are shaved, and if necessary the epidermis or skin is thinned down. After this vaccination as in the ordinary manner is proceeded with, the animal being retained in the one position for six or seven days, when the matter is ready for removal either into tubes or quills, and must be as clear as water or else rejected. Calves of the Jersey breed are preferred. Drs. Robbins and Lewis have sent the vaccine to France, to Egypt, to China, Japan, and

to all parts of North and South America. The greatest care is taken to provide that the calf which is to be vaccinated shall be in the best possible health. It is said that after a day or two the calves do not appear at all inconvenienced by their confinement, but munch their food with zest and in fact get fat. During the summer animals which are "under process" are kept in the country, it being found that they thrive better than in town.—*New York World*.

**THE STEP OF MAN.**

At a recent sitting of the French Academy of Sciences, Monsieur Marey read a very interesting paper, giving the result of his experiments with a machine for measuring the length and rapidity of man's strides in walking. The machine, called the odograph, consists of a cylindrical body containing clockwork which causes the cylinder to revolve at the uniform rate of 2.36 inches an hour. A pen is so arranged as to trace a line on paper rolled around the cylinder, and the track made by this pen shows the rapidity of the footsteps of the person to whom it is attached. An air valve is placed in the sole of the shoe, and it communicates with the instrument by means of a rubber tube leading up the trowsers' leg. Each time that the foot strikes the ground a slight puff of air is sent through the tube, causing the pen (which would otherwise mark only a horizontal line) to rise a distance equal to 0.004 of an inch. Thus a line is traced on the paper from left to right, rising at a greater or less angle with the horizontal according as the rapidity of the step is increased or diminished. If a man stepped exactly 3 feet at each step it is evident that in going 3,000 feet the pen would rise just 0.4 of an inch, but it was found in practice that the distance the pen was raised varied between 0.51 and 0.67 of an inch, showing that the average step varied in length from 2½ to 3 feet.

Mons. Marey found that a number of circumstances modified the length of the step. His experiments were made with soldiers from the young recruits to the bronzed veteran, and as they knew nothing of the objects of the experiments, their walk may be regarded as absolutely natural.

From the large number of trials made certain facts were positively determined as follows: The step is longer going uphill than in going down; longer for a man carrying a load than for one unloaded; longer with low heels than with high heels; and longer for a man wearing thick soles and those which project slightly beyond the toe than for one wearing short and flexible soles. It was found that while the heel might be lowered indefinitely without detriment to the gait, the sole could not be made perfectly rigid nor prolonged too far without interfering with the speed and ease of the wearer. Experience alone was able to determine the exact length and thickness necessary to produce the best results.

The rapidity of the step and its regularity could be determined to a nicety. If the rapidity of the step did not change, the line drawn on the paper would keep a regular fixed angle with the horizontal; but if the step quickened, an increased angle would result, making the line curve upward; and if it slackened, the curve would have its concavity downward, these results being, of course, irrespective of the length of the step. Sometimes, as in going uphill, the length of the step increased while its rapidity slackened; but on a level it was found that hastening the step caused an insensible increase in its length also.

Mons. Marey proposes to study all the circumstances which affect man's walk, in order to determine those which produce the best results. The nature of the soil walked on, the temperature of the air, the state of abstinence or digestion, fatigue or repose of the walker, will all be taken into consideration. The effect obtained by marching troops to the drum-beat and bugle will be compared with that produced by their free march, and finally the effects of gymnastic training will be carefully observed.

**An English Engineer on American Locomotives.**

Mr. R. M. Brereton, C.E., writing on this subject, says: "I argue that the greater duty done by the American motor is due to the better design and the better system of working the locomotives. The American builder excels in the system of framing and counterbalancing, and in the designs of crank axles, etc., so that the engine may run remarkably easy and without jar round sharp curves, and work not only the light roads, but also diminish the wear and tear on the solid roads, and at the same time increase the effective tractive force. The English engine is a very heavy affair, and in running it not only wears and tears itself very rapidly, but also the roadway, and it greatly, by its unsteadiness and jar, fatigues the drivers and firemen. I have ridden hundreds of miles on engines in India, in England, in France, and in the United States, and I have always found the American engine most easy and comfortable, but I never did the English or the Continental engines. It is almost impossible to give these engines their full hauling power, simply because the greater portion of the weight cannot be thrown on the driving wheels."

**Unsinkable Ships.**

A party of gentlemen interested in steam navigation lately met at North Woolwich to inspect a steam launch built on Mr. James Long's unsinkable system. The principle consists in attaching to the sides of the hull of a vessel a series of flat air-tight metallic cylinders or drums, the inner heads of which are built into and form part of the framing and inner skin of the vessel. These drums project on either side of the ship and are cased in, the under sides of the casings normally resting upon the surface of the water and becoming slightly immersed under a load. The result is a light draught with great freeboard, and it is claimed that a greater stability under canvas and a higher rate of speed under steam or sail are thereby attained, besides the advantages of greater cargo capacity, economy in construction, and, above all, unsinkableness, however damaged by collision or otherwise. The launch in question, which is only experimental, is steel built, 37 feet in length, 6 feet in depth, and 5 feet 8 inches beam internally. She has seven cylinders fitted on each side, each cylinder being 3 feet 6 inches in diameter and 1 foot 8 inches deep, and which give her a width on deck of 9 feet over all. She draws 2 feet of water without her load, and has a freeboard of 4 feet. A short run was made with the vessel, a fair rate of speed being attained, while its unsinkable character and other points were demonstrated by Mr. Long by means of a model vessel.

**600,000 Barrels of Petroleum Wasted.**

Since midsummer there has run to waste in the Bradford oil region something like 600,000 barrels of petroleum. A recent dispatch from that region says that there are in round numbers nearly 8,000 producing oil wells in the Bradford district. Their daily yield is 70,000 barrels. The lower or old oil fields are producing 12,000 barrels a day. The daily demand for petroleum is 55,000 barrels. This is the amount now run by the pipe lines. The accumulation of oil for which there is no present demand long ago exhausted the storage capacity. For three months 6,000 barrels of oil have been running to waste every day. There are 2,000,000 barrels of petroleum in wooden tanks at the wells. It is estimated that there are at least 8,000,000 barrels of accumulated stocks in the storage tanks of the pipe lines. The oil that is running to waste is run upon the ground and into the creeks. Enterprising individuals build dams along these streams and collect the floating "grease." Hundreds of barrels are pumped off and stored in improvised tanks to await a market. Individual producers are building private tanks to store the overproduction. There are now 400,000 barrels of this tankage in this region. The number of wells steadily increase every month, in spite of the situation.

The Bradford wells are all flowing wells. This fact is what caused the abandoning of so many of the wells in the lower field, they being all pumpers. Until recently the "sucker rod" and pumping engine were almost unknown in the Bradford field. Now they are in demand. Many of the old wells have fallen off greatly in their yield. The supply companies cannot furnish enough sucker rods and engines to meet the call for them. Second-hand ones from the lower field find a ready market at good prices. This resort to the pump is creating no little uneasiness in the field. It indicates that the gas is failing. A flowing well on being pumped increases its yield largely; but the continuance of a full yield becomes uncertain. The positively defined area of the Bradford oil-producing field includes over 65,000 acres. There is a well to every 5 acres of land that has been developed, which leaves about 30,000 acres yet to drill. Wells on this territory will not be put down with such reckless haste as has characterized past operations, because it is controlled by large companies of capitalists.

**Prizes for Designs for Furniture.**

The Council of the Society of Arts, London, are trustees of the sum of £400, presented to them by the Owen Jones Memorial Committee, being the balance of the subscriptions to that fund, upon trust to expend the interest thereof in prizes to "students of the schools of art, who in annual competition produce the best designs for household furniture, carpets, wall papers and hangings, damask, chintzes, etc., regulated by the principles laid down by Owen Jones;" the prizes to "consist of a bound copy of Owen Jones' 'Principles of Design,' a bronze medal, and such sums of money as the fund admits of."

The prizes will be awarded on the results of the annual competition of the Science and Art Department. Competing designs must be marked "In Competition for the Owen Jones prizes."

The next award will be made in 1881, when six prizes are offered for competition, each prize to consist of a bound copy of Owen Jones' "Principles of Design," and the society's bronze medal.

**American Carriage Production.**

At the recent meeting of the Carriage Builders' National Association in Chicago, the president called attention to the fact that more pleasure carriages are manufactured in the United States than in Great Britain, France, Italy, and Germany together. Not one of the countries of Europe produces annually so many pleasure carriages as are made in "one little city" in this country. Since carriages are kept only by the smaller portion of our well-to-do citizens, the vast number in use speaks volumes with regard to the general wealth and prosperity of the American people.