

about 16 feet deep when full, and is remarkably transparent. Among the numerous stalactites pendent from the roof, the guide singles out the Harp, which emits musical sounds on percussion. The lake is said to be a quarter of a mile long, though its width does not exceed 40 feet at any point. The sheet of water looks finely when illuminated with magnesium or by red fire.

Just beyond the landing place the passage is obstructed by a huge stalagmite reaching from floor to ceiling, and about 30 feet in diameter. Climbing around its upper portion by a narrow pass, we find ourselves on the edge of a pool that is apparently a continuation of the lake. It is surprisingly deep. We sounded to the depth of 35 feet without touching bottom, and took Van Dyke's word for its being 60 feet deep. As the surface of the water is only 45 feet above the level of the hotel, the bottom of this pool must be lower than the mouth of the cave; and the pit it fills may have been the former passageway of the stream to lower tiers of caverns underneath.

The cave now grows wider and with larger chambers as we follow the windings of the rivulet. Uncle Tom's Cabin stands 500 yards from the lake, and is a unique stalagmite of great dimensions, through whose base the flowing water has cut a tunnel by which one can gain the pathway beyond. Next is a hall about 200 feet long and 80 feet high, extending to a gigantic pile of rocky fragments, surmounted by several large stalagmites bearing fanciful names.

Descending from this eminence we find ourselves in a valley only about 10 feet wide, but of remarkable height. Masses of broken stalactites encumber the way, and 60 feet overhead is a projection, 25 feet square, called the Table Rock, accessible by hard climbing. The guide told us that this valley is 1,100 feet below the surface; a fact explained by saying that the cave pierced beneath a lofty hill, a spur of the mountains. We had no means at hand for either verifying or disputing this extraordinary statement; but we were led to doubt it because of the immense quantities of miry clay obstructing several branches that we attempted to explore.

The Winding Way trends to the right from the main cave line, and, together with what it leads to, is the most remarkable portion of the entire cavern. The ground plan of this underground cañon would resemble the peculiar articulation of the suture joining the bones of the skull. The Winding Way is from 2 to 4 feet in width, from 3 to 30 feet in height, and, as measured by us, about 550 feet in length. It is so crooked that it seems as if one changed his direction at every step. The walls are coated with translucent stalagmite equal in beauty to Mexican onyx, which it much resembles. I saw nothing finer in quality, even in Luray Cavern, where the display of Oriental alabaster is so exceedingly diversified and beautiful. The cañon is here and there curiously spanned by stalactitic arches. Having gone about two-thirds of the way through this bewildering passage, we come to a large cavity formed by the dislodgment of a triangular mass of rock which has wholly disappeared under the clay. The Winding Way ends in a circular aperture, through which one can barely crawl, by lying flat on the ground. This, of course, is called the Fat Man's Misery, a name without which the nomenclature of no cave would be complete.

Beyond this place of merry difficulties is the Rotunda, that ends the cave in this direction. There are many excavations in Mammoth Cave of the same nature as the Rotunda, the local name for them being "domes." Some of them are far larger, but none are more symmetrical. They are caused by the rotary action of whirling water freighted with sand and gravel, thus transformed into a powerful cutting engine. The diameter of the Rotunda is 25 feet, and its height was said by the guide to exceed 300 feet, in proof of which he alleged that rockets had been fired upward in it warranted not to explode until they had reached such an elevation. Moreover, it is said, and commonly believed, that no mortal ever saw the apex of the dome. It is a pity to break in upon such pleasant delusions, but regard for the truth compels me to say that by burning common red fire I saw the apex with distinctness; and comparing it with domes in Mammoth Cave, whose height is definitely known, I should say that the Rotunda does not greatly exceed 100 feet in height. But it is, without exaggeration, a very remarkable dome, and it pays the visitor for all the trouble taken in reaching it.

A degree of disappointment must be confessed as to the entire dimensions of Howe's Cave. Some enthusiastic letter writer once said that it was twelve miles long. The report on the geology of New York states that it has been "explored to a distance of seven miles, and seems to extend farther." A clerical friend assured me that it was at least six miles long. It is recorded that one avenue "has never been explored to its full extent, although a party once spent eighteen hours in it, traveling the whole time, and not reaching the end." Finding that the proprietors themselves discredited these statements, and had no objection to my measuring the cave, I accordingly undertook the task, assisted by my son, with this result: that the total combined length of all avenues open to the public is only *one mile and three-quarters*, and that there may be a mile or more additional of by-ways and tortuous crevices never shown to tourists; hence the owners are warranted in their honest advertisement that the entire length is about three miles.

The swiftness of the cave stream, and its liability to sudden overflow, must have prevented the aborigines from making this cavern a place either of residence or sepulture. It may be doubted, indeed, if they knew of its existence. Few animal remains have been found here. Large numbers of

bats, however, hibernate in its chambers, clinging in clusters, like swarms of bees. No fish inhabit the lake or the stream, except such as have been put there by the hand of man, and even these forsake these subterranean waters when the spring freshets give them the opportunity to do so.

It should be said, in conclusion, that while Howe's Cave is far surpassed by several caverns in the subcarboniferous limestones of Virginia, Kentucky, and Indiana, it is the largest in this country that has been excavated from the rocks of the Silurian period. Its attractions are very considerable, and some of them are unique and highly remarkable. The cave is well worth visiting, especially as it is so easily reached from New York and the New England States. Its environs are picturesque, and from the piazza of the hotel a wide and beautiful view is commanded of the fertile valley of the Cobles-Kil, beyond which rises the wooded summit of a spur of the Catskills.

RECENT INVENTIONS.

An improvement in that class of ironing table that may be folded compactly together when not in use, so that it may be placed out of the way, has been patented by Mr. William G. Lindsay, of Winnebago, Wis. The invention consists in pivoting or hinging the ironing board to the ends of one of a double pair of hinged or pivoted cross legs, and securing to the under side of the board a ratchet-toothed spring bar, upon which the round of the other pair of cross legs may be placed at any required distance apart, by which means the height of the table may be adjusted.

An improved clasp for albums of all kinds, Bibles, and other books, so constructed that it may be easily closed even should the book be overfilled, has been patented by Mr. Carl Posen, of Offenbach-on-the-Main, Germany.

A water seal cup for waste pipes for refrigerators and for other purposes has been patented by Mr. Sylvester Gray, of Long Island City, N. Y. The invention consists in the combination of a bent wire with the water seal cup and the waste pipe, by which the cup is securely and detachably connected with the waste pipe.

An improved harness buckle has been patented by Mr. Robert D. Whitemore, of Chippewa Falls, Wis. The object of this invention is to provide a buckle which shall tighten with a side pressure upon the trace and hold the trace more securely as the strain upon it increases.

Mr. Samuel S. Gible, of Mount Joy, Pa., has patented an improved insect trap. The object of this invention is to protect tobacco planters from the pest of the so-called "tobacco worms" (known as the larvæ of several species of *Lepidoptera* of the sphinx family), by capturing the parent moth prior to laying her eggs upon the plants, from which the worm is hatched. The invention consists in providing a wire trap with eyes or rigidly-attached loops to serve as a means for supporting it upon a staff or pole, and with a looped pendent wire for suspending the bait beneath the open bottom of the trap.

An improvement in the class of devices constituting an elastic or yielding support for thills or shafts of vehicles, whereby they are automatically raised and held elevated when the horse is detached, has been patented by Messrs. Allen C. Smith and Henry W. King, of Canaan, N. Y. In this position the thills are less liable to be broken or otherwise injured, besides occupying less of the available floor space in the carriage house, and likewise facilitating the re-attachment of the horse.

An improved lock for holding reels to fishing rods, which is simple and effective, has been patented by Mr. Henry Prichard, of New York city. The invention consists of a sleeve surrounding the fishing rod, and provided with a notched internal shoulder at its upper edge, which engages with one of a series of studs on the metal casing of the rod. If the sleeve is passed down over the upper end of the plate or strip of metal to which the reel is attached, the lower end of which is passed into a suitable socket, the plate can be firmly locked in the desired position by turning the sleeve.

Mr. Henry O. Koschwitz, of Brooklyn, E. D., N. Y., has patented a method of making buttons and similar articles, consisting in turning the articles in a lathe first in one direction and then in a direction at right angles to the first, and then splitting or cutting the cylinder with rounded ends thus obtained longitudinally into several pieces, which are ground or planed and polished.

Mr. Henri B. Burin, of New York city, has patented an improved velocipede, which is so constructed that it may be used upon land and water with equal facility.

Mr. Thomas Leach, of Taunton, Mass., has patented an improvement in baking dishes applicable to all kinds of analogous covered dishes, such as pickle casters, jewel cases, sugar or butter dishes, etc. The dish has novel means for maintaining the cover of the dish in suspended position above the receptacle.

An improved draught equalizer which is simple, strong, and durable, and can be easily adjusted according to the strength of the animals and the resistance of the load, has been patented by Mr. Franklin H. Standefer, of Fort Payne, Ala. It consists in a doubletree provided with a vertical longitudinal slot, and made adjustable lengthwise on the doubletree bolt by means of a screw.

An improvement in gloves has been patented by Mr. Remus D. Burr, of Kingsborough, N. Y. The invention consists in extending the palm of a glove to form the little finger, thumb, and front and sides of middle finger, an obtuse angled cut being made from the base of the middle finger to the opening of the thumb.

Mr. Francis M. Cummings, of Porterville, N. Y., has patented an improved cheese curd sifter and picker, made so as to sift out the fine curd and pick the coarser or lumpy curd into pieces, reducing the curd to the desired fineness to receive the salt evenly with very little injury to the curd and loss of "white whey."

Mr. John Menahan, of New York city, has patented a pocketbook fastening, which is so constructed as to hold the pocketbook securely closed. It consists in a plate having one or more holes to receive the fastening pin and flanges upon its side edges to receive a sliding plate having one or more holes to receive the fastening pin, and slots between its holes to receive the neck of the fastening pin.

An improved hinge for folding bedsteads has been patented by Mr. Herman A. J. Rieckert, of New York city. This invention relates to hinges for folding bedsteads wherein the bed is fitted for being turned or closed into a stand or cabinet. The object is to furnish a hinge which will permit ready removal of the bed from the stand without the necessity of unscrewing the hinge; and this invention consists in a hinge having its leaves formed separate, one being made with the hinge pin as part of the leaf, and the other leaf made with a semicircular recess for the pin.

An adjuster for the slats of window and door blinds, so constructed that the slats can be adjusted into any desired position, and will be securely held in place, has been patented by Mr. John H. Monk, of Brooklyn, E. D., N. Y.

An improved apparatus or sweat house for curing and sweating tobacco to dark colors without developing any unpleasant or pyreumatic odors, which is unavoidable when the curing and sweating are done in the ordinary manner, has been patented by Mr. Charles S. Phillips, of Brooklyn, N. Y.

Messrs. William W. Stratton and Adam Steuerwald, of Columbus, Ohio, have patented an improved cornice for curtains and lambrequins, which can be adjusted to suit any desired opening or space, such as a window, door, niche, and the like.

A labor-saving and effective process and apparatus for simultaneously softening and stretching hides and leather, has been patented by Mr. William Coupe, of South Attleborough, Mass. The invention consists in the application of revolving pin blocks to the surfaces of hides and leather in such a manner that the whole surface of the hide or leather is pressed or acted upon by the pins, and thereby stretched and softened.

An improved bag tie has been patented by Mr. Lewis A. Fish, of Faribault, Minn. The invention consists of a double-eyed double hook, whose hooked end is formed by bending the end up at right angles to the shank, then along the shank of the hook and parallel therewith, then upward again at right angles, and finally back on itself and parallel with the shank, and whose eyes are formed on the other end of the shank by loops extending laterally on either side.

Mr. George Oliver, of the City Road, County of Middlesex, England, has patented a novel apparatus for use in theatrical and other performances for suddenly raising a performer to a considerable height from the stage, the apparatus consisting, mainly, of an assemblage of vertical springs arranged overhead, the performer being connected thereto by a fine wire or rope. The object of this invention is to render the apparatus available for use in theaters or other buildings where there is not sufficient height to admit of the springs being placed in a vertical position.

A method of producing distinct and artistic patterns on pearl buttons has been patented by Mr. Charles L. Woodbridge, of Brooklyn, N. Y. The invention consists in first painting or sizing on the surface of the button, with some substance not soluble in a nitrate of silver solution, the pattern that is to be produced; then a solution of nitrate of silver is applied with a brush to the whole surface of the button, and the button then exposed to the light. The actinic effect of the light soon changes the color of the nitrate of silver either to a light brown or a darker color, according to the duration of the exposure and strength of the solution. Then the paint or size is washed off with spirits of turpentine or other solvent, and the design is thus left clear and distinct in the natural color of the button on the face of the button, after which the design may be further wrought out by engraving and gilding.

Mr. Lucius S. Edleblute, of Cincinnati, O., has patented an improvement in the class of thill couplings or shackles in which the thill irons are adapted to be detached from the axle clips when raised to a vertical position.

How Church Tower Clocks are Wound.

The oldest tower clock in the city is in St. Paul's steeple. It was made in 1778 by John Thwait, of London. The clock in St. John's Church was put in the tower in 1812. The Trinity clock was placed in its lofty station, 200 feet from the pavement, in 1846, by James Rogers. In dry weather this clock runs well; but in damp, chilly weather it sometimes stops, owing to the precipitation of moisture on the wheels. Originally two men were required to wind it, each of the three 1,500 pound weights having to be lifted over 50 feet. Some time ago the winding gear was changed so that one man can now wind it.

Describing the operation of winding, the clock-keeper said, the other day: "The crank is about 20 inches long, and when I turn it around I make a sweep of 30 inches. It's a good deal harder than turning a grindstone, but the machine has a ratchet, so that I can stop and rest when I want to. The crank has to be turned 750 times to turn the barrel 21 times.

Around the barrel is wound the wire rope that holds the 1,500 pound weight. The weight is simply a box with pieces of iron in it. That is very old-fashioned. Now we have iron weights so moulded that they can be added to or subtracted from, and the weight can be graded to a nicety. A new wire rope was put to the chimes weight the other day. The rope is what is called tiller rope, and is 280 feet long and three-quarters of an inch thick. It takes me an hour and a half to wind up the clock."

St. Paul's clock has a single back gear and two weights of 1,000 pounds each. It takes three-quarters of an hour to wind it. St. John's clock is wound in less than an hour; while the modern clock of St. George's, in charge of the same keeper, is wound in fifteen minutes.

THE FACE IN HEALTH AND DISEASE.

Among the earlier authors who were ignorant of many of the present methods of determining the condition, size, and position of the bodily organs (since the art of auscultation and percussion is a growth of later date), the study of the human countenance formed a very important part of the preparatory drill. The followers of Hippocrates and Galen were rendered perfect in their perceptive faculties. The former gave, in his masterly work, descriptions of disease which are still considered classic; while the latter, in his essays on the "Temperaments," is equally careful to note the most trivial alteration either of the face or of the posture. In modern times the diagnostic value of general physiognomy has been studied by De Salle, Jadelot, Siebert, Lavater, Laycock, Corfe, and others. Those who question the utility of this much neglected department of science would do well to read Darwin's great work on the expression of the emotions in animals, and the contributions of Connelly upon the typical shades of expression peculiar to the insane. With a view of systematizing and arranging the collected investigations of the above named authors, and bring within the compass of a single article such practical information as the anatomy of the face may afford the practitioner, Dr. Ambrose L. Ranney contributes an illustrated paper on the subject to the December number of the *New York Medical Journal*. The physiognomy of the sick presents innumerable shades of expression, and these may not only be the direct result of the influence of the ever-varying passions upon the muscles of the face, as is the case in health, but they may also be classed as morbid phenomena, each of which possesses some special significance. The diagnostic value of *facial lines and wrinkles* has had its share of support from many authors. These wrinkles may be classified in six groups:

(1) *The transverse rugæ*, situated on the forehead, and thought to be expressive of an extreme amount of pain arising from causes outside of the cavities of the body. (2) *The oculo-frontal rugæ*, extending vertically from the forehead to the root of the nose, and thought to express distress, anxiety, anguish, and excessive pain from some *internal cause*. It is said that when the first-named rugæ meet the latter abruptly during the course of an acute disease, some serious lesion of the brain, or its coverings, is developing. (3) *The line aoculo-zygomatica*, extending from the inner angle of the eye downward and outward, passing across the face below the malar bone. This, in children, is said to indicate a cerebral or nervous affection; and, in adults, some disorder of the genitalia. (4) *The linea nasalis*, extending in a curved line downward from the sides of the nose. This line is said to be strongly marked in phthisis and in atrophy. Its upper half is thought to be a reliable indication, if prominent, of intestinal disease; the lower half is supposed to indicate the existence of disease affecting the stomach. When it appears conjointly with the foregoing (No. 3), it is claimed that it may be regarded as a positive indication of worms in children, provided a peculiar fixed condition of the eye exists and a pallor of the face is present. (5) *The linea labialis*, extending downward from the angle of the mouth till it becomes lost in the lower part of the face. This is usually developed in connection with those diseases which render breathing laborious or painful, and is commoner in children than adults as a valuable diagnostic sign. (6) *The linea collateralis nasi*, extending from the nose downward to the chin in a semicircular direction. It is thought to be a reliable guide to diseases of the thoracic and abdominal viscera.

The nostrils are of practical interest from a medical standpoint. They dilate forcibly and rapidly in difficult respiration, when produced by disease; and itching of the nostril is regarded by many authors as a valuable diagnostic sign of intestinal worms. Marked elevation of the nostril is regarded by some authorities as an indicator of pain within the cavity of the thorax. The eye also affords many diagnostic signs. An irregularity of the pupils of the two eyes indicates, as a rule, pressure upon nerve centers or upon the optic nerve itself. In adynamic fevers the eyes are heavy and extremely sluggish, and are, as a rule, partially covered by the drooping eyelid; while in certain forms of mania they are seldom motionless. In "Bell's paralysis," due to failure of the facial nerve, the eyelids stand wide open and cannot be voluntarily closed, since the orbicularis palpebrarum muscle is paralyzed. In cardiac hypertrophy an unusual brilliancy of the eye is perceived. In scarlet fever a peculiar glistening stare exists, which is in marked contrast with the liquid, tender, and watery eye of measles. Many diseases of the eye itself tend to greatly alter the normal expression of the face, and prominent among these may be noted cataract, glaucoma, cancer, iritis, etc. Abnormal-

ities of the pupils may afford the practitioner material aid in diagnosis. The pupils are found to be dilated during attacks of dyspnoea and after excessive muscular exercise, in the latter stages of anæsthesia, and in cases of poisoning from belladonna and other drugs of similar action.

A contracted state of the pupils exists during alcoholic excitement, in the early stages of anæsthesia from chloroform, and in poisoning by morphia and other preparations of opium, chloral, and some other drugs. Certain signs may also be had from the lips and mouth. In sickness, if the angle of the mouth be depressed, pain and languor may be read; and when the corrugator supercillii muscle cooperates with the depressor muscles of the mouth, acute suffering is proclaimed. Extreme pallor of the lips is seen in excessive hemorrhage, in purpura, in chlorosis, etc.; deep lividity denotes a defective oxygenation of the blood, and occurs in diseases of the lungs, heart, and larynx; while pale lividity occurs in cases where the circulation of the surface is languid or imperfect. In painful affections of the abdominal organs the upper lip is usually raised and stretched over the gums or teeth, so as to give a diagnostic expression to the countenance, which is considered by some as of great value. Many of the specific forms of disease have their own special physiognomy, which have a value to the diagnostician, but a further reference to which can scarcely be made in a short article like the present. It is to be hoped, however, that these facts from Dr. Ranney's paper, fragmentary as they necessarily are, may tend to awaken in the profession a renewed interest in a subject which is rapidly being lost sight of, and the value of which is often ignored. It is not to be expected that sight alone can guide the medical attendant to unerring diagnosis, but that it may prove of the greatest value as an *aïd*, the facts adduced seem to render undisputed.

THE CHICAGO POLICE ALARM SYSTEM.

Mention has been made in this paper of the system of telegraphic alarms recently adopted in Chicago for police signaling. Sixty days' trial of the system in the 12th Street District has convinced the city authorities of the advantages of the system, and it is now proposed to extend it to the West Lake Street District, covering an area of over four square miles.

The public alarm-houses, as described by the city Chief of Police, are built of wood, and just large enough to admit a man. They are placed upon the sidewalk, as near to street corners as practicable, and securely fastened either to telegraph poles or corner stores. The keys to such houses are uniform; they are furnished to respectable citizens upon application at the station, and a record kept of the names of key holders. A mechanical alarm to register the location of the complaint is inclosed in a small box attached to the side of the house, which box also incloses a telephone for the use of the officer traveling that particular post, and which places the officer in direct communication with his commander at the station. The citizen who possesses a key can, by pulling down a lever which protrudes through a slit outside the box, procure the attendance of three policemen and a horse and wagon in from one to four minutes after entering the alarm-house. The wagon carries a stretcher, blankets, shackles, handcuffs, etc., and can be used either as an ambulance or conveyance for prisoners. The alarm-houses are furnished with patent locks, which, after opening, retain the key until an officer arrives with a master key, which he inserts in the reverse side of the lock and releases the original; this precaution is taken to prevent false alarms, and to keep the complainant at the alarm-house until the officers arrive to hear the complaint and apply the remedy. A large bell will be procured and erected upon each station, and at a given signal each officer in the district will be required to report immediately at the alarm-house upon his post, so that if any serious crime be committed in the district the officer in command at the station can summon each man on post duty, and telephone to his whole command at once, giving information to his men of the nature of the crime committed, and, if known, a description of the criminals, thus putting each patrolman on the alert to arrest the suspected parties.

In addition to these public alarm stations are private boxes combining police and fire alarm calls, which are to be placed in stores, offices, and dwellings at a cost of about \$30 each. These boxes are so small that they can be set in a wall, behind a desk, or under a counter, and a noiseless alarm given, which will not disturb the thief or swindler until the officers arrive to make the arrest.

Fire-alarms can be given in the same manner, and registered at the headquarters of the Fire Department in one second after the alarm is turned in.

A Georgia Ice Factory.

A correspondent of the *Hartford Times* describes as follows the factory of the Georgia Ice Company at Atlanta:

On the ground floor is a boiler 50 feet long and 4½ feet in diameter, containing 150 feet of 3½ inch pipe. The boiler is kept filled with aqua ammonia, which is separated by the steam heat into ammonia gas and water. The gas, leaving the water in the boiler, forces its way through a 6 inch pipe outside the building to the roof, three stories up, where it passes into 15,000 feet of coiled pipes, in which it is converted into liquid by cold water thrown over it in fountain jets. This liquid passes into 15,000 feet of three-quarter inch pipe, arranged in vertical sections 30 feet high and 3 feet apart, and its sudden liberation into these pipes turns the liquid pure

ammonia into vapor, and the sudden expansion makes the pipes intensely cold. Now, above these hundreds of vertical pipes are innumerable little fountain jets throwing spray all over the pipes, the spray freezing gradually, forming an immense icicle of pure ice around each pipe. The gas next goes into 15,000 feet of absorbing pipe, and, being cooled by water running on the pipes, it is met by water forced into the pipes, and thus converted back into aqua ammonia, which goes into the big boiler, and is not used over again. There is no waste, the same ammonia being used and reabsorbed any number of times. The water used for the spray is drawn from a well 75 feet deep, on the premises, and the large blocks of ice (which are loosened from the pipes by a little hot steam) come out pure and clear, and entirely free from any odor or objectionable taste.

After the pipes have been stripped, about five weeks are required for a new lot of the requisite thickness to form. But, of course, the pipes are never all stripped at the same time, the ice towers being in all stages of formation. The factory has a capacity of 35 tons per day, but 20 tons keep pace with the demand, and it isn't stored, but cut every day as it is delivered, and it sells at from \$10 to \$12 per ton.

ENGINEERING INVENTIONS.

Messrs. T. A. Trudelle and Eusebe Maheux, of Quebec, Canada, has patented an improved car coupling, which consists of a spring-actuated draw head and peculiarly adjusted levers operating a coupling pin, in combination with a spring-actuated draw bar, that serves to hold the coupling pin up when the cars are uncoupled.

Mr. Benjamin F. Walker, of Derrick City, Pa., has patented an improved clasp-packer for well-tubing joints to prevent the waste of oil when removing tubing from oil wells. The device is made in two semi-cylindrical parts, hinged to each other at one side edge and fastened at the other side edges with a hook and pin, and provided with packing at its ends and side edges to adapt it to be clasped around the tubing at its joint, and having a side opening and hose to carry the oil to a receiver.

An improved engineer's level-rod has been patented by Mr. Michael L. Lynch, of Cameron, Texas. This invention relates to the class known as "self-reading level rods," and is distinguished from others by the peculiar manner of marking the scale upon the face of the rod, whereby the readings of fractions of a foot may be readily made without the use of a sliding target.

Improvements in steam generators, designed more particularly for generating steam for heating buildings, but applicable generally to the generation of steam for power purposes or other uses, has been patented by Mr. Nelson Coombs, of Titusville, Pa.

Mr. William J. French, of Carencro, La., has patented an improved device for securing nuts on railroad, bridge, and other bolts. The invention consists of a recessed segmental washer, in combination with a segmental forked or pronged clip locking in with said washer.

Barbed Wire Fence Patents.

In a recent issue the *Chicago Inter-Ocean* reports an important decision by Judges Drummond and Blodgett, of the United States Circuit Court for the Northern District of Illinois, with regard to the right to manufacture barbed fence wire. Fourteen suits were decided, all in favor of the complainants, the Washburn & Moen Manufacturing Company, of Worcester, Mass., and Isaac L. Elwood, of De Kalb, Ill., who are jointly interested in the patents involved, and are also largely engaged in the manufacture and sale of barbed fence wire. The decision is that all persons who have been manufacturing and selling the infringing barbed wire are liable for back damages. It is stated that Judge Lowell, of the United States Circuit Court of the Massachusetts District, had advised the complainants, who had several suits pending in his circuit, to await the decision of Judges Drummond and Blodgett. It is also reported that numerous suits pending in Iowa, Missouri, and other States have been suspended for the same reason, but will now be proceeded with. By this decision the complainants are shown to be the only parties who have the right to manufacture and sell barbed fence wire.

Uselessness of Chian Turpentine in Cancer.

Dr. Henry Morris, after giving Chian turpentine a pretty thorough trial in several cases of cancer, the details of which he gives in the *Lancet*, arrives at the conclusion that this recently vaunted remedy is utterly valueless in this dread disease. He says: "I am not able to report that there is a single symptom over which the drug seems to exercise even frequently, not to say constantly, an influence. It cannot be relied upon to assuage pain, to diminish or alter the character of the discharges, to check hemorrhage, or promote the destruction of the growth by ulceration or sloughing. In the few cases in which the patient at first thought she was benefited, the impression was due to that 'clutching at straws' tendency, that is so often observed in persons suffering from lingering and incurable disease, and to her being encouraged to think that she was taking a new and certain cure. Rest, regulation of diet, attention to the bowels, an anodyne at night, and the extra local cleanliness which follows from the use of injections and lotions, will of themselves, and without any internally administered drug, give temporary ease and improvement."