

Fall of Aerolites.

A dispatch in the New York *Tribune* from Ossawatimie, Kan., states that an aerolite fell near that town in the afternoon, April 8, striking the monument to John Brown, "Ossawatimie Brown," as he was sometimes called, erected to him by private subscription originated by Horace Greeley in 1863. The meteor broke off the left arm of the statue. It passed through the dome and nave in a slightly southeasterly direction, and through six feet of clay just south of the crypt, stopping only at bedrock. Experts say the aerolite is composed of metal supposed to exist only in the sun.

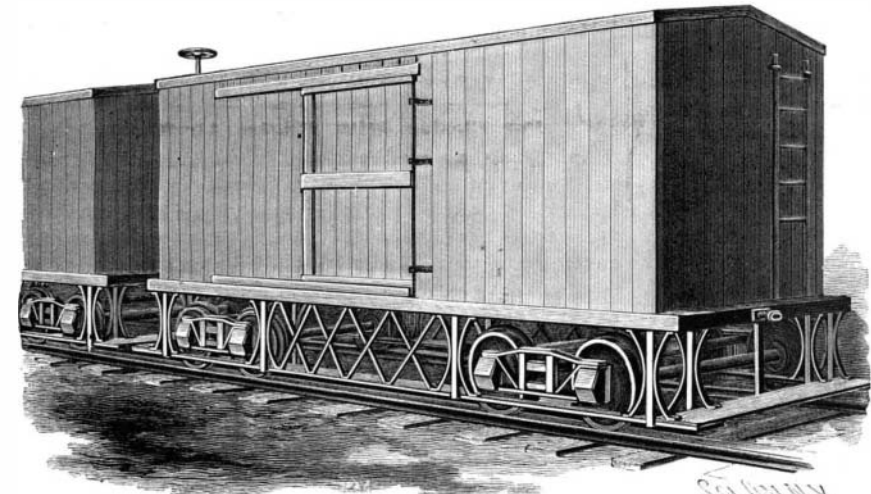
The Cleveland, O., *Leader* states that on April 4, at Washington, Oregon, a meteorite, weighing about 80 pounds, was excavated by workmen employed by the Rev. T. B. Collins, a former citizen of this place. Mr. Collins, at the request of a Chicago college, set men to work making the excavation.

Ever since the night of May 12, 1886, it has been the opinion of our citizens that at a spot beneath a large oak tree, near the corner of Main and Temple Streets, a meteoric stone was embedded in the earth. On that night a terrific electrical storm was raging, when citizens in that part of town who happened to be looking out of their windows saw an immense ball of fire traveling at an incredible speed toward the earth. It came crashing down through a large tree, struck the curbstone, and scattered portions of it fifty feet around. Window lights were broken in the houses throughout that locality, and the report sounded like the report from a big cannon. A large hole was made in the earth, but, strangely, it was left to this late day to discover the meteorite.

On April 4 the workmen discovered a soft streak in the earth, and followed it to the depth of nine feet. There, embedded in the earth, was a meteorite several feet in circumference and oblong in shape.

A RAILWAY CAR LIFE GUARD.

The life guard attachment shown in the illustration extends all round the car, so that there is no liability of a person getting under the wheels in falling at either side or end of a car, or between cars. The im-



HENTHORNE'S CAR ATTACHMENT.

provement has been patented by Mr. Henry Henthorne, of No. 345 North Fourth Street, Newark, O. The guard preferably extends to within about three inches of the rails, its bottom boards being located directly in the line of the car wheels, and extending somewhat beyond the car ends, where there are transverse end boards. In the bottom boards are openings of just sufficient size to accommodate the wheels, and the device is supported from the trucks by stirrups or hangers, strengthened by oppositely disposed braces. At each side of the car between the trucks is also a latticework, serving not only to prevent a person getting under the car between the trucks, but to give additional strength to the guard. The end members of the guard project far enough out from the end of the car to permit of their use by the trainmen as a step or platform in coupling cars, the guards of two cars provided with the improvement coming so close together that there will not be room for a person to fall between them.

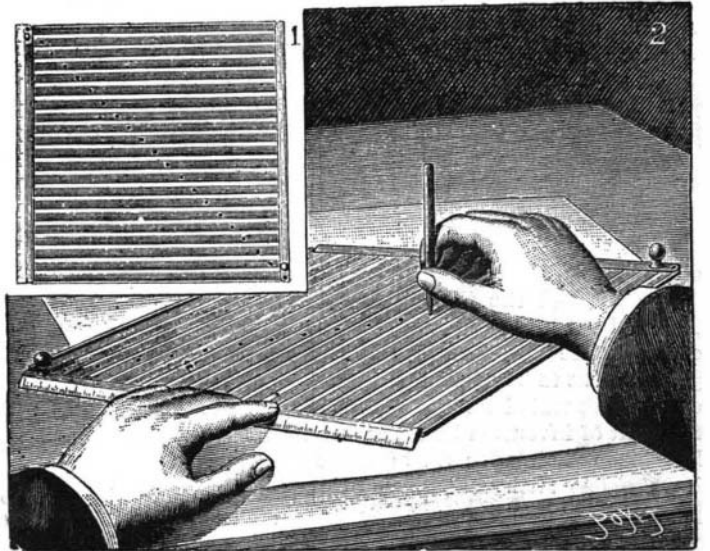
A Mosquito Exterminator.

The *Indian Medical Record* for March 16 says that a Bombay newspaper calls attention to the virtues of the castor oil plant as a means of protection against mosquitoes. In Egypt it is planted about houses to drive the insects away. In towns, a better plan is to have the young plants in pots, and bring them into the house for a day or two at a time, but they must not be kept too long in the shade, for the *Palma Christi* is a sun-loving plant. A writer is cited as saying

that the mosquitoes are killed by a poison that they find on the lower side of the leaf, but it is stated that, if a dozen leaves are placed about a room that swarms with mosquitoes, they will disappear without leaving any dead ones lying about.

THE INSTANTANEOUS DIVIDER.

The instantaneous divider devised by Mr. Robert Personne, of Sennevoy, consists of a jointed parallelogram, in the interior of which, and parallel with one of its sides, are arranged small rules equally spaced and jointed at their extremities. Each rule contains, according to its longitudinal axis and to one of the diagonals of the parallelogram, a small numbered aperture designed for the passage of a pencil point, in order to mark the divisions. In order to divide any line into a certain number of equal parts, 17, for example, it suffices to place the zero of the instrument upon one of the extremities of the line, and to bring to the other extremity the aperture marked No. 17, and then to point off through all the apertures from 0 to 17. It is clear that, in cases in which it would not be possible to bring the aperture carrying the number chosen to the extremity of the line to be divided, it will suffice to replace such number by one of its multiples. For example: In order to divide a line of 20 centimeters into 3, it will be easy to point off 5, 10, 15, or else 4, 8, 12, etc. The principal figure in the engraving indicates the *modus operandi*.—*La Nature*.



INSTANTANEOUS DIVIDER.

1. View of the apparatus. 2. Method of using it.

Effects of Heat and Cold on Canned Foods.

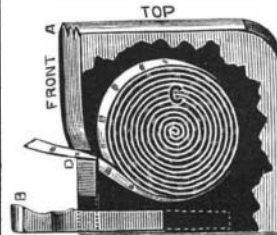
In a recent army circular, Adjutant-General Williams repeats the information heretofore published in the *American Grocer* concerning the keeping qualities of canned foods under exposure to extremes of heat and cold. General Greeley, of Arctic fame, says:

"Apples, peaches, pears, rhubarb, green peas, green corn, onions, potatoes, and tomatoes were all subject [at Lady Franklin Bay] to extreme temperatures (over 60 degrees below zero), and were solid for months at a time. The second summer they thawed, the following winter froze solid again. All the articles named presented the same appearance as though freshly canned, and their flavor was as good when the last can was eaten as in the first month. It should be understood that these were first-class canned goods and from dealers of standing and reliability. Cranberry sauce, preserved damsons, preserved peaches, and fruit butters suffered certain changes from candying, etc., which detracted somewhat from their flavor, though not materially so. Dealers in such preserves predicted that such conditions

"The only class of provisions that, in my experience, suffers from great heat is that of uncooked articles, such as butter, cheese, and some forms of potted meats."

THE MAGIC WAX LIGHTER.

The small, thin, self-lighting pocket device shown in the illustration is designed to be a good deal more of a convenience generally than the ordinary cigar lighters, although its use for such purpose is very obvious. A readily removable slide of the casing contains a roll of wax-coated tape, shown in one of the views, and this tape has along its surface a series of igniting pellets, at short distances apart. When the lid or



THE MAGIC WAX LIGHTER.

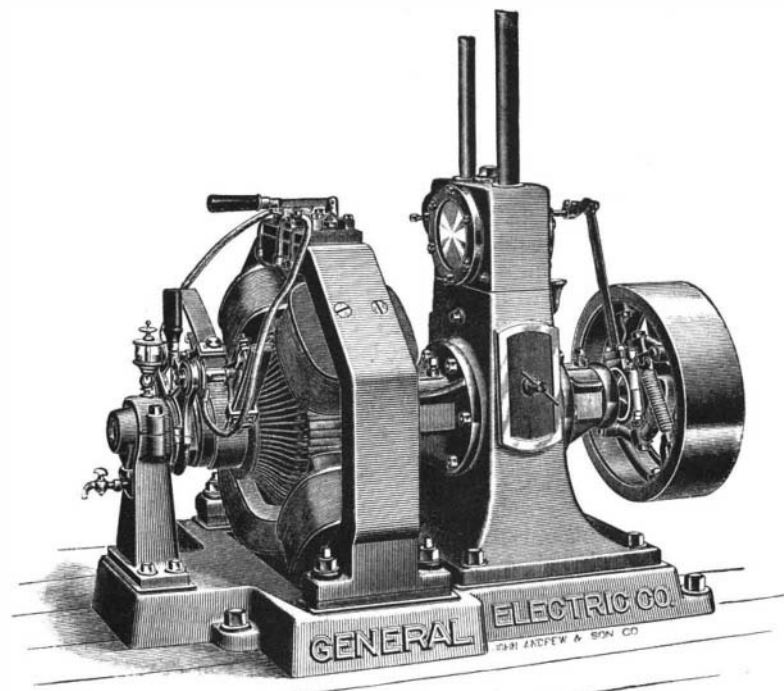
cover is opened, by depressing the key at the side, the exposed wax taper is at the same time automatically lighted. Should light be desired for more than the brief period during which the exposed portion of the taper is burning, a further depression of the key, bringing forward a fresh surface, will effect the object, and this may be repeated as often as required.

The construction is such that there is no possibility of chance ignition. The Magic Introduction Co., of No. 321 Broadway, New York City, is introducing this improvement, and the company has ready also a further novelty in the adaptation of the device to an umbrella or cane head.

A SIMPLE AND COMPACT ENGINE AND DYNAMO.

The direct coupled generator and engine, in one compact set, is, under conditions of restricted space and position, the ideal electrical plant. We illustrate a small, direct coupled generating set, recently perfected and manufactured by the General Electric Company, New York. It forms part of their display at the Columbian Exposition. As perfected, it represents the result of two years of careful practical experience.

For marine installations, where a separate engine is indispensable to drive the generator, these sets are especially adapted, being as cheap as, if not even less expensive than, belted plants, while they can be readily fitted to positions where a belt-driven dynamo and engine could not find a sufficiency of space. Compact and simple in arrangement, their suitability for small isolated plants in hotels and buildings where belting is objection-



A SIMPLE AND COMPACT ENGINE AND DYNAMO.

able is undeniable. Under exhaustive tests, the engine shows the highest possible economy obtainable from machines of this size; and its simplicity is such as to reduce the attention necessary to a minimum. The generator is of the familiar General Electric Company quadripolar type, compound wound, having a regulation automatic, within two per cent over the entire range from no load to full load. The commutators are cross connected, so that only two brushes, 90° apart, are used. The rheostat is of the new, iron frame, incombustible type. The engine and dynamo are both provided with self-oiling bearings. The sets are manufactured in 4, 8, 15, 30, and 50 kilowatt capacities.

Decisions Relating to Patents. INVENTION.

The Circuit Court decides that letters patent No. 278,294, issued May 22, 1883, to Otto Thum, for a sheet of fly-paper partially covered with a sticky composition, the latter being surrounded by a margin of less adhesive material, so as to prevent it from spreading over the edges, and the third claim of letters patent No. 305,118, issued September 16, 1884, to the same person, covering the fly-paper with adhesive faces placed together, so as to be packed without folding, and adapted to be separated when ready for use, are not invalid for want of invention because plasters for the body had long been made with an adhesive margin surrounding the less sticky substance of the medicinal compound. 1.

The United States Supreme Court rules that claim 2 of letters patent No. 224,923, issued February 24, 1880, to Joseph W. Kenna, for a combined child's chair and carriage, consisting of an ordinary chair pivoted at the lower part of its front legs to the corresponding legs of a standard having four legs, and supported at the rear by a bail attached to a crosspiece of a spring catch, is void for want of invention, since practically all that the patentee accomplished was to take the Patten or Chichester chairs (covered respectively by patents issued September 3, 1878, and July 9, 1879) and apply to them the bail and catch of the prior "Pearl chair." 2.

It is held by the Circuit Court that claim 2 of reissued letters patent No. 10,021, issued January 31, 1882, to Andrew Saunders, for a pipe cutter, consisting of a stock, rotary cutters, antifricition rollers, arm, and feeding screw, is void for want of invention; for rotary cutters were well known substitutes for knife cutters, and every element in the combination had theretofore been patented in the same place, as is shown by the following patents: No. 52,715, to William S. Haworth, January 20, 1866; No. 65,066, to Theodore S. Foster, May 28, 1867; No. 67,530, to Henry Getty, August 6, 1867. 3.

The Circuit Court lays it down that letters patent No. 408,475, granted August 6, 1889, to Evan James Francis and Charles Banfield, for "a bottom for heating furnaces, formed of segregated masses, broken pieces, or fragments of non-combustible material having interstitial passages, and presenting a broken or uneven surface," disclose a patentable invention. 4.

In its rulings the Circuit Court says that letters patent No. 339,543, issued March 12, 1889, to William Mack, for improvements in opera-glass holders, possess no patentable invention, in so far as they merely provide for corrugations on the telescopic sections of his prior patent, No. 268,112, to prevent twisting, and for the substitution of a longitudinally forked attaching device for the original clutch. 5.

The Circuit Court decides that letters patent No. 274,941, issued April 3, 1883, to Isaac W. Heysinger, for a machine for inserting and clinching staples, are void as covering improvements obviously the result of mere mechanical skill. 6.

The Circuit Court rules that claims 4 and 7 of letters patent No. 268,112, issued November 28, 1882, to William Mack, for improvements in opera-glass holders, show patentable invention, and are valid as covering a detachable telescopic opera-glass holder having at the upper end a clutch or fastening device adapted to clasp the transverse bars or cylinder of an opera-glass. 7.

UTILITY.

It is held by the Circuit Court that when the existence of invention is doubtful, the fact of utility should have great weight in favor of the patent. 8.

COMBINATION.

The Circuit Court holds that letters patent No. 226,402, issued April 13, 1880, to Isaac W. Heysinger, for a device for filing and binding papers, if sustainable at all, must, in view of the prior state of the art, be limited strictly to the structure shown and described; and, as the first claim is for a filing clip composed of a clamping arm and a base, the former being provided with a heel, which holds the arm locked when open, the heel is an essential element, and there is no infringement where this is lacking. 9.

The Circuit Court decides that the fact that the claims of letters patent No. 219,208, issued September 2, 1879, to Charles F. Brush, for an electric lamp, purport to cover broadly all forms of mechanism constructed to

separate the two or more sets of carbons dissimultaneously or successively, does not render the patent void as being for a function or result, since particular means are described in the specifications and referred to in the claims; and the patent covers such means or their substantial equivalents. 10.

The Circuit Court lays it down that letters patent No. 304,863, to Henry Root, for a track brake for railway cars, is not void as being a mere aggregation of old elements, for the brake consists of two toggle levers, one operating upon the other, which is attached to the shoe, thus achieving a new and useful result, sufficient, when aided by the presumption of novelty and utility arising from the issuance of the patent, to sustain the same. 11.

The first claim of letters patent No. 337,187, issued March 2, 1886, to Frank W. Mix, for a trunk lock, covers "a hasp plate and a lock plate, the adjacent edges of which are constructed to interlock with each other, in combination with a hasp hinged to the hasp plate, and provided on its free end with a lock, which is received in a cup or frame in the lock plate, substantially as set forth." It is held by the Circuit Court that, as all these elements were old, the claim is too broad to be sustained in view of the prior state of the art, as shown by the "Star" lock; the Jones patent, No. 44,869, November 1, 1864; the Uitting patent, No. 62,453, February 26, 1867; the Terry patent, No. 107,133, September 6, 1870; the Hillebrand & Wolfe patent, No. 120,067, October 17, 1871; the Haskell patent, No. 214,252, April 15, 1879; and the Crouch patent, No. 235,130, December 7, 1880. 12.

The Circuit Court decides that no limitation was placed upon the Brush patent by the fact that the inventor's claims, as first presented, were rejected as functional, and that the language was twice slightly changed, for the file wrapper shows that there was no change in the essential features of the claims, and that the Patent Office, after a contest, finally yielded to the patentee's views. 13.

1. Thum v. Andrews, 53 Federal Reporter, 84.
2. Derby v. Thompson, 13 Supreme Court Reporter, 181.
3. Saunders v. Allen, 53 Federal Reporter, 109.
4. Francis v. Kirkpatrick & Co., 52 Federal Reporter, 824.
5. Mack v. Spencer Optical Mfg. Co., 52 Federal Reporter, 819.
6. Philadelphia Novelty Mfg. Co. v. Weeks, 52 Federal Reporter, 816.
7. Mack v. Spencer Optical Mfg. Co., 52 Federal Reporter, 819.
8. Corbin Cabinet Lock Co. v. Eagle Lock Co., 52 Federal Reporter, 980.
9. Philadelphia Novelty Mfg. Co. v. Weeks, 52 Federal Reporter, 816.
10. Brush Electric Co. v. Electric Imp. Co., 52 Federal Reporter, 965.
11. Pacific Cable Ry. Co. v. Butte City St. Ry., 52 Federal Reporter, 863.
12. Corbin Cabinet Lock Co. v. Eagle Lock Co., 52 Federal Reporter, 980.
13. Brush Electric Co. v. Electric Imp. Co., 52 Federal Reporter, 965.

Habits of Thought.

Habit reigns as supreme in the region of thought as in that of action. We often see persons whose lines of thought run mainly in the same groove, be it art, or science, or politics, the accumulation of wealth, or the desire of fame. Their thoughts become as truly fixed habits as anything which they are accustomed to do with their hands. There are some people whose minds drift hither and thither with every passing wind of circumstance; for so long a time has such been their practice that it has become a mental habit. Others have acquired the habit of self-control, not only in their active deeds, but also in their silent thoughts. By frequent practice they have attained the power of concentrating their minds upon one subject for a time, and of turning it to another when they deem it advisable.

Again, if we could examine the ideas which men hold, we should perhaps be surprised to find how many of them are due to habit rather than logic. In childhood man took for granted whatever he heard expressed by those to whom he looked up with respect. Whenever he heard any of their ideas criticised by others he resented it, and clung firmly to them. These opinions have come to be settled habits of mind with him. He regards them as certainties, and looks with suspicion upon those who do not share them. Yet, if challenged to defend them, he is utterly at a loss. They are his only by adoption; he has never earned the right to call them truly his own by the hard mental work of investigation.

This is the history of many of our most cherished notions, the foundation on which thousands stand in politics, in science, in the problems of the day, in social observance, in ethics, in theology. This practice of thinking from habit, if universal, would put an end to all progress. Happily, there are always some men and women who are resisting this tendency

—the leaders of public opinion, the pioneers in the march of intellectual progress. Their effort should be, however, less to impress their own views upon other minds than to help every man to form his own ideas in an intelligent way.—*Phil. Ledger.*

The Carrier Pigeon.

JOSEF V. PLEYEL.

Of late years the interest in carrier pigeons has been very considerably enhanced. Belgium takes the lead, but the other countries are not far behind. The facility with which the carrier pigeon determines its course is as yet unexplained. To attribute this knowledge of direction to instinct is merely a confession of ignorance. It is much rather sight, reflection, and sensation which guide the carrier pigeon on its course, and rarely guide it wrong. The same faculty is possessed by all migratory birds. To form an intelligent conception of this faculty, we must assume either a special sense or a delicate sensitiveness to atmospheric currents. Experiments by balloonists have shown that pigeons are incapable of flying at any great height. Birds thrown out at 6,000 meters fell like dead, and even at the moderate height of 300 meters pigeons liberated by the balloonist Gaston Tissandier approached the earth in a spiral course. It is evident, hence, that they are not guided wholly by sight. To bring a point 300 miles distant within the range of vision, it would be necessary to ascend nearly 20,000 meters. The carrier pigeon, starting on such a journey, must consequently start with faith in the unseen.

As regards the speed of flight of carrier pigeons, there is considerable divergence of opinion. The Belgian birds are admittedly the best, and the greatest achieved speed of a Belgian bird is given as 150 kilometers (over ninety-five miles) within the hour. In favorable weather a good bird will cover thirty to thirty-five miles in an hour. The greater the distance, the smaller the probability of the prompt return of the bird. At a distance of say a hundred miles almost all birds return safely if the weather is favorable, but at distances of four or five hundred miles it is impossible to reckon confidently on the bird's return. It appears curious, but it is a well established fact that as the bird nears its home its speed is accelerated.

The question has frequently been raised as to whether the male or female pigeon is the better for racing contests. Practically there is nothing to choose between them when both are in condition, but a laying female should never be taken for the sport.

The carrier pigeon is not, as many suppose, a distinct variety. All domestic pigeons are presumably descended from the blue-rock pigeon, and all are more or less suited to the purpose. The common pigeon is not used, for, although a rapid flier for short distances, he has no great staying powers.

One of the best pigeons for the purpose is the tumbler (*Columba gyrratrise*), whose sense or sensation of direction is very strongly developed, and who rarely loses his way. The tumbler flies higher than most birds of the genus, and will continue circling in the air for hours. He has all the necessary staying power for long flight, and a great love of his home. Still, many of these birds leave much to be desired. In the first place, they are likely to waste time before setting out on their return; again, they are liable to fall victims to birds of prey; and, lastly, they are especially liable to diseases of the eye, which frequently result even in total loss of sight. Another bird of equal speed and endurance is the Persian "carrier."

In the first year the trainer rarely lets the test exceed from 60 to 90 miles; the following year the distance may be extended to 250 miles; and in the third year, when the bird is at the height of his powers, the limit may be extended to 350 or 400 miles.

In the last year of training, the first flight is from 120 to 130 miles, terminating in a contest which usually extends to about 300 miles. The longest contests are from 400 to 700 miles. Before entering a bird for the contest it should be carefully examined as to its fitness, and the feet cleaned, washed, dried, and oiled. Some trainers start their birds with empty crops, with the idea that it will make them more eager to get home. This is a great mistake. The famished bird is liable to be exhausted by long-sustained effort.—*Der Stein der Weisen; Literary Digest.*

Gigantic Icebergs.

The mail from the Falkland Islands brings the intelligence that the Dundee whaler Polar Star arrived at Stanley Harbor from the Antarctic season February 17. The whaling in the Antarctic seas had up to that time proved a failure with all the ships that went out. There were plenty of whales of the finner and hump-back kinds, but not of the Greenland kind. There were too many grampuses for whales to be at all plentiful. Seals are very numerous, and there are also many sea lions to be got on the ice. Nothing unusual to Arctic navigators was seen except some icebergs of enormous size. One of them was fifty miles long and several others from fifteen to twenty miles long.