

nut street station, of the New Jersey railroad, in Newark, N. J., and is operated by any one of five switches with which it is connected, the one furthest from the signal being at a distance of 3,000 feet. The signal box is a structure of a pyramidal form, having at the top a disk, glassed and surrounded with a broad black border. A vault, or cellar, under the structure contains a battery which is defended from changes of temperature by being thus sunk in the earth, and from which lead the insulated wires, buried in the ground, beyond the reach of frost, alongside the track, and having terminations at each switch connected with the signal.

The signal itself is simply a disk of red stuff (merino) balanced on one end of a vibrating lever, held in place by the armature of a magneto-electric battery. It is so delicate in operation that the slightest movement of either of the switches, whatever the distance from the signal, produces a movement of the signal; and a connection between the metallic plates representing the poles of the electric current, was made by means of the head and point of a common toilet pin, which easily and instantaneously moved it.

At this place, on the New Jersey Road, which here crosses seven or eight streets, the trains run at full speed in coming into the city, and it is necessary that every means should be used to guard against accidents. This device, having been in use on a portion of the New York and New Haven railroad for more than eighteen months and never having failed in a single instance, was adopted by the New Jersey Railroad and Transportation Company on the most exposed portion of their line, and has proved, by the testimony of Mr. Smith, the section master at that end of the line, and a railroad engineer of some twenty or more years experience, to be absolutely reliable under all circumstances.

The results of the trials made on the occasion referred to were so convincing, as to the advantages of this device, that the unanimously expressed opinion of the gentlemen present was entirely and wholly favorable. Its applicability to bridge draws as well as railway switches, its non-liability of getting out of repair, certainty of action, and simplicity of construction seem to prove its value for general adoption on our railroads, as a preventive of the loss of life and destruction of property occasioned by misplaced switches and open draw-bridges. It is in use on the New York & New Haven, New Jersey, Morris & Essex, and is being introduced on other roads.

#### OBITUARY.

##### JEREMIAH CARHART.

We have often been called upon lately to record the deaths of distinguished men who, by their inventive genius, have greatly added to the general wealth and prosperity of the country. We have again to perform this sad duty for Mr. Jeremiah Carhart, of this city, an esteemed client, a worthy citizen, and successful inventor, who died at his residence, No. 216 East 19th street, on the 16th inst. Previous to 1846, at which time the firm of Carhart & Needham was formed, Mr. Carhart devoted years of experiment to the improvement of the melodeon, which was at that time an inferior instrument, both in quality of tone and power. In that year he took out a patent for an improvement upon this instrument, the nature of which consisted in drawing the air through the reeds into a bellows, instead of forcing the wind through, out of the bellows, as had been previously the case. Trifling as this change may appear to be to those not familiar with the mechanism of these instruments, it revolutionized the whole business of melodeon manufacture, and so changed the character of the instrument, that the plan has been universally adopted. Having been eminently successful in this improvement he next turned his attention to the perfection of the reeds, or thin strips of metal, the vibration of which produces the tones of the instrument. In this he was also very successful. He invented a machine that would make, rivet, and plane these reeds to the proper size and thickness, and followed up this improvement by the invention of a "tube board" to hold them when finished. Soon after he invented a new reed, the peculiarity of which is, that it is held by its thickness and not by the edge, as had been previously the case. He also invented a machine for riving the reed to the block which does the work of twenty men with far greater accuracy than it could be possibly done by hand. Another of his inventions was an automatic machine for cutting the cells in the reed board, which is such a marvel of ingenuity that it has been ranked with the celebrated Blanchard lathe. This machine is not only capable of cutting in straight lines, but it carves scrolls with a nicety and rapidity entirely unequalled by hand labor.

His improvements gave the firm the monopoly of the reed manufacture, it being divided with two other firms, which paid a royalty for the privilege. The instruments manufactured by this firm, early took, and have always maintained, a leading rank in the trade.

Mr. Carhart was an industrious, honorable man, and a genial warm-hearted companion. His business success was well merited, and his death will be lamented by a large circle of friends and acquaintances.

##### CAPT. COMSTOCK.

We regret to announce the death of Capt. Joseph Jesse Comstock, who was widely and favorably known as the commander of the steamer *Baltic* and other vessels of the Collins line. Capt. Comstock died at his residence in New York city on the 16th inst., from an attack of pleurisy. He commenced his nautical career, as a boy, on a Long Island schooner. After having served four years on a ship in the China trade, he took the position of first officer on a Liverpool packet. Subsequently, he commanded a steamer on the

Long Island Sound, and remained upon that route until 1850, when he entered the service of the Collins line, remaining in it until its suspension, after which he commanded at different times the *Baltic* and the *Adriatic*, used as transports by the Government. He delivered to the Russian government the *General Admiral* in 1859, the *Re d'Italia* to the Italian Government in 1863, and the famous *Dunderberg* to the French Government in 1867. He was also for two years agent for the New York and Havre line. Upon the sale of the vessels of that company he retired to private life, to enjoy only for a brief season the fruits of an active and useful career. He was an able seaman, and his death will cause pain to many who are indebted to his superior skill for safe and pleasant voyages across the stormy Atlantic, as well to a nearer circle of friends.

#### CHANGES IN THE PATENT OFFICE.

COMMISSIONER FOOTE, of the Patent Office, has promoted Samuel Duncan, First Assistant Examiner, to special duty in the Commissioner's room as his assistant, and V. D. Stockbridge from a clerkship to be Second Assistant Examiner. James L. Norris and Charles Page have also received promotion to the Examining Corps. J. H. Adams of Boston, has been appointed to take charge of the annual "Patent Office Report," in place of Edward H. Knight removed, rumor says on account of his connection with a Patent Agency. Mr. Adams is a very competent man, and, previous to his removal to Boston, was connected with the Examining Corps of the office for many years.

#### Editorial Summary.

THE act of Congress amending the Postal Laws declares that it shall not be lawful to deposit in a post-office, to be sent by mail, any letters or circulars concerning lotteries, so-called gift concerts, or other similar enterprises, offering prizes of any kind, on any pretext whatever. In conformity with this law, Postmaster-General Randall has directed that all such matter be sent to the Dead Letter Office, without being returned to the owners. We hope the result may be to rid the mails of a mass of trash, by means of which ignorant people permit themselves to be swindled, in the delusive hope that somehow they may suddenly get rich, by a matter of chance. But will the system work? We doubt it.

It is a prevalent but mistaken idea in the Eastern States, that there are but few factories in the west. The fact is, that the cities and villages of the west are teeming with busy workshops. For instance, of the cities, St. Louis has over 300 factories and produces nearly \$50,000,000 worth of goods annually, and of the villages, Moline, Ill., among other things, makes 50,000 plows of various kinds a year, and has \$120,000 invested in shops where a log enters one end of the building and emerges from the other in the shape of tubs, pails and churns.

ONE of the divers employed in ascertaining the condition of the harbor bottom at the mouth of the sewer at the Dry dock of the U. S. Navy-yard, was suffocated to death in the diving bell used for that purpose on the 20th inst. A companion who was with him at the time was also rendered insensible so that his life was saved with considerable difficulty. The bell was not built on the same plan of the one used on the wreck of the *Hussar*, recently described in our columns.

ANOTHER NEW PLANET.—Prof. Watson, of the Detroit Observatory, announces the discovery of another new minor planet, which was made by him on the night of August 16th. It appears like a star of the 10th magnitude, and at twilight on the morning of the 17th its right ascension was 35° 24', and its declination 0° 48' south. Its apparent motion is west and north, 34' in right ascension, and 4' of arc in declination.

CHICAGO sent forward to the east last year, 48,000,000 bushels of grain, of which ninety-one per cent. went by water, and nine per cent. by rail. Of the millions of bushels of corn which were forwarded east from the same point, ninety-nine per cent went by water. And all this in face of the four and one-half months of suspension of navigation during the season.

DITCHING is something of a feature in farming operations in the west, especially in Ohio. The work is often performed under supervision of the county authorities. The Commissioners of Paulding county, Ohio, have established a ditch eleven miles long, and one has been completed in Wood county, 12 miles long, at a cost of \$75,000.

AT the recent hurricane in Mauritius all the railway stations were unroofed, the iron doors of an engine shed were torn from their fastenings, and one of them weighing a ton and a quarter is said to have been blown entirely across the line of the railway. Two spans of an iron viaduct one hundred and twenty feet in length were hurled into a ravine below.

WE would call attention to the advertisement headed "To Coal Oil Manufacturers." From the analysis of Professors Ellet and Everett it is shown that Breckinridge coal yields a very large per cent of paraffine and lubricating oil, placing it measurably out of competition with petroleum and putting it, as regards a market, with sperm oils.

QUEEN VICTORIA has just signed an act of Parliament authorizing a company to lay down and work a street railway in the city of Liverpool. Street railways are a very convenient nuisance in this city.

SOME velocipede amateurs of Marseilles, France, are arranging a long journey with this novel means of locomotion. The velocipedes are to start from Marseilles for Genoa by the Corniche road, and thence to Turin and Susa over Mont Cenis, and back to Marseilles by the valley of the Rhone.

It was some time since predicted by some geologists, that naphtha would be found in the Caucasus Mountains. It is now announced that this belief has been realized. A boring 276 feet deep has reached a deposit near Knaaco, which is said to be yielding a large daily average.

AN IMPERIAL INVENTOR.—We learn through private advices that the Emperor Napoleon has invented a single-rail railway, which is now working satisfactorily between the villages of Raincy and Montfermeil, near Paris. No description of the improvement has yet been published.

IN some of the large railway stations in France, the walls are decorated by large carefully painted maps of the main line, showing also its connections with branch roads.

A "Labor Parliament" is to be held in London, England, to devise measures for securing seats in Parliament for at least a dozen *bona fide* workmen.

## OFFICIAL REPORT OF PATENTS AND CLAIMS

Issued by the United States Patent Office.

FOR THE WEEK ENDING AUGUST 18, 1868.

Reported Officially for the Scientific American.

PATENTS ARE GRANTED FOR SEVENTEEN YEARS, the following being a schedule of fees:—

On filing each caveat.....	\$10
On filing each application for a patent, except for a design.....	\$15
On issuing each original Patent.....	\$20
On appeal to Commissioner of Patents.....	\$20
On application for Reissue.....	\$30
On application for Extension of Patent.....	\$50
On granting the Extension.....	\$50
On filing a Disclaimer.....	\$10
On filing application for Design (three and a half years).....	\$10
On filing application for Design (seven years).....	\$15
On filing application for Design (fourteen years).....	\$30

In addition to which there are some small revenue-stamp taxes. Residents of Canada and Nova Scotia pay \$500 on application.

Pamphlets containing the Patent Laws and full particulars of the mode of applying for Letters Patent, specifying size of models required, and much other information useful to Inventors, may be had gratis by addressing MUNN & CO., Publishers of the Scientific American, New York.

81,060.—DEVICE FOR VENTILATING AND DESICCATING.—E. H. Ascroft, Lynn, Mass.

I claim the combination of the T-shaped pipe, A, and the inner horizontal one, d, constructed and operated in the manner substantially as shown and described, and for the purpose set forth.

81,061.—SOLES FOR BOOTS AND SHOES.—Alexander Joseph Bassett, Philadelphia, Pa.

I claim a sole for boots and shoes, arranged substantially in the manner and for the purpose specified.

81,062.—SUGAR PACKER.—E. J. Biederman, Brooklyn, N. Y.

I claim, in devices for packing barrels with sugar and other substances, the combination of the forcing screw, G, and clamps, G, and screws, H, H, the crank shaft, D, and platform, A, arranged and operating substantially as and for the purpose herein set forth.

81,063.—GAS BURNER.—W. J. Brassington, Brooklyn, N. Y.

I claim, 1st, The valve, A, placed inside of the ordinary gas burner, and operated so as to cut off the force of the gas to the desired quantity necessary to supply a miniature flame, substantially as described.

2d, The valve seat, I, H, formed by the under side of the tip in the ordinary gas burner, against which the valve, A, seats itself, for the purpose specified.

3d, The application of the spiral spring, B, in combination with the valve, A, for the purpose herein specified.

4th, The movable jacket, M, or casing, with the slot, N, in combination with the band, W, for the purposes of receiving the movable glass protector or hood, R, substantially as described.

5th, The combination of the internal movable valve, A, with the elastic packing, F, and plate, G, and screw, D, or their equivalents, substantially as shown and described, for the purpose set forth.

6th, The application and use of the spring point, P, attached to the movable jacket, M, or casing, and the notch, K, to receive the same, for the purpose of securing the aforesaid movable jacket, M, or casing in its proper position, when it is raised to protect the small flame, U, or drawn down to permit a full flame at T, as herein specified.

7th, A pull or handle, O, or other suitable device, attached to the movable jacket, M, or casing, for the purpose of operating the same, either up or down, substantially as described and herein set forth.

81,064.—BEARING FOR FLYERS IN SPINNING MACHINES.—Jas. Brown, Pawtucket, R. I.

I claim the within described arrangement of the conning screws, a, b, the tube, c, the rail, A, and the oil trough, d, placed underneath the rail, the screws by such arrangement being within the rail, and the oil trough being below, and covered by it, in manner as specified.

Also, the arrangement of the conning screws, a, b, the tube, c, the rail, A, provided with oil and air ducts, e, f, the oil trough, d, and the oil duct, n, substantially as described.

81,065.—SOFA BED.—Wm. Brown, Worcester, Mass.

I claim, 1st, The combination, with the sofa bed, of the pieces, d, d, and the loops, a, a', or either, and the spring arms, g, g, substantially as and for the purposes set forth.

2d, The combination, with the hinged legs, G, G, and loops, a, a', of the pieces or levers, H and arms, g, substantially as and for the purposes set forth.

3d, The combined head boards and detachable leeks, H, substantially as described.

81,066.—CORN PLANTER.—Jarvis Case, Lafayette, Ind.

I claim, 1st, Connecting the front and rear frames of the machine by means of the flexible plate, t, when said parts are combined substantially as described.

2d, The catch, u, pivoted to the rear frame, and arranged to engage with the bar, U, for locking the front and rear frames rigidly together, substantially as and for the purpose set forth.

3d, The scattering device, arranged in the lower end of the seed tubes, when constructed substantially as described.

4th, The sea, T, when arranged to be adjusted in rear of the axle, or over the front part of the platform, substantially as described.

5th, The combination of the valve, I, pivoted cam, g, and sliding arm, l, attached to the seed slides, constructed and arranged to operate substantially as shown and described.

6th, The removable hopper bottom, C, having the cut-off, e, attached thereto, when constructed and arranged substantially as shown and described.

81,067.—CAR COUPLING.—Ed. W. Chadwick (assignor to himself and Wm. P. Chadwick), Edgartown, Mass.

I claim the arrangement and combination of the chambered cap, C, with the chambered draw bar, A, the spring, h, and the lever catch, B, made as described.

81,068.—ARTIFICIAL TEETH.—J. W. Clark, Philadelphia, Pa.

I claim, 1st, The arrangement of the double notched pin, P, and the manner of securing the same in proper position by means of notches in dies, 1, 2, 3, 4, 5, and 6, and slide, D.

2d, The manner of arranging the dies, 1, 3, 3, 4, 5 and 6, and drawing them out from the sides of the molds: also, the arrangement of the bolts, B, and thumb screw, S, for securing said dies firmly in place.

81,069.—BIT FOR BORING WOOD.—Ransom Cook, Saratoga Springs, N. Y.

I claim the improved spoon bit, constructed substantially as hereinbefore set forth.

81,070.—LOOM.—George Crompton, Worcester, Mass.

I claim, in combination with angular evener levers and horizontal harness levers, operated upon by such eveners (to bring the jack books into line), the rocker links, t, which connect such eveners with the side rods, substantially as set forth.

Also, in combination with jacks operating upon horizontal harness levers, and with angular lifter and depresser levers operating such jacks, the angular lifter and depresser levers, connected to the slide rods by which they are operated, by the rocker links, u, substantially as described.

81,071.—MANUFACTURE OF COMPOUND OILS.—Francois Louis De Gerbeth, Dalston, England, assignor to Thomas S. G. Kirkpatrick, Dated August 13, 1868; patented in England, November 11, 1867.

I claim the production of an oil resembling linseed oil, and applicable to