

Agricultural Life in Missouri.

What can be pleasanter, says an exchange, than the life of a Missouri farmer? At daylight he gets up and examines the holes around his corn hills for cut worms, then he smashes the coddling moth larvæ with a hoe handle until breakfast. The forenoon is devoted to watering the potato bugs with a solution of Paris green, and after dinner all hands turn out to pour boiling water on the chintz bugs in the corn and wheat fields. In the evening a favorite occupation is smudging peach trees to discourage the curculio; and after a brief season of family devotion at the shrine of the night-flying coleoptera, all the folks retire and sleep soundly till Aurora reddens the east and the grasshoppers tinkle against the panes and summon them to the labors of another day.

New French River Steamboat.

A large steamboat has recently been constructed at Seyne, France, after the plans of M. Dupuy de Lome, for the navigation of the river Rhone. She is 496'8 feet in length, and has 37'1 feet beam. With her coal on board she draws but 17'5 inches of water, and can receive 126 tons of load per 3'9 inches of immersion. At a draft of 50 inches she carries a load of 900 tons. The vessel has four boilers and two inclined compound engines, which drive two large helicoidal wheels placed in the stern, each of which has twelve wings. Each wheel moves independently of the other, so as to be used for steering. The craft has been tried once, but without good results, through some mistake in the construction of the machinery. It was found that a high speed threatened to shake her to pieces. This, however, it is said, will be shortly remedied.

American Telegraphy.

The efficiency of the service of the Western Union Telegraph Company is well illustrated by a statement which we copy from Mr. William Abbott's *Monthly Circular* for July 1. This statement, which alludes to the perfect organization of the Anglo American Telegraph Company, says that messages are exchanged between London and California in the same space of time occupied for similar service between London and Paris, the distances respectively being about 5,500 and 250 miles. As the Western Union Company perform over two thirds of the entire service between London and California, the exhibit is a remarkable evidence of the efficiency of that company, and, considering the respectable source whence it comes, the appreciation is all the more valuable.—*Journal of the Telegraph.*

Spiritual Phenomena.

At a private party, given at his London house during the past month, Sir Charles Wheatstone exhibited some curious electrical experiments for the amusement of his friends, which would seem to throw some light on certain so called "spiritualistic manifestations." In a dark room, by a stamp of his foot, Sir Charles produced a brilliant crown of electric light in mid air, while musical instruments seemed to be played by invisible hands, whereas the sounds really came from an adjoining room, in which the player sat, and were made to appear to be produced by the instruments before the spectators by an ingenious contrivance. A contest between Science and the "spirits" in their own chosen feats would be almost as memorable as the celebrated competition between Moses and the magicians.—*Liverpool Post.*

An Interesting Discovery.

Some workmen, while engaged in laying water pipes in Cividale, Italy, recently encountered a large flat stone. On raising this, a bed of mason work was revealed, in which was placed a stone sarcophagus covered with a marble lid. Within the receptacle were the remains of a human skeleton, some portions of which were yet perfect. Beside the body lay a sword, lance, helmet, spears, a gold clasp and ring, a piece of very beautiful gold tissue, and a flask of water, which was still remarkably clean. The removal of clay from the bottom of the grave brought out the letters "ISVL"—from which archæologists have decided that the remains are those of Gisulf, Duke of the Lombard Marches of Friuli, who fell in battle in 611, while repelling an invasion of the Avars.

THE NEW COMET.—Professor Parkhurst says that the new comet may be found, by the aid of a small telescope, 7° south of γ *Ursæ Minoris*, the upper pointer of the Little Bear. Between 9 and 10 P. M., it will be almost directly to the left of that star. The distance of our new visitor is estimated at about 100,000,000 miles. In about a week it will be found midway between the γ and Thuban.

TOOTHACHE CURED BY ELECTRICITY.—Dr. Bouchard, of Paris, says that toothache may be almost instantly arrested by a constant battery current from ten cells. The positive pole is placed against the jaw, on a level with the painful tooth, and the negative pole to the antero-lateral region, on the same side of the neck.

THE EARL OF CAITHNESS, of whose novel form of ship's compass we recently gave an illustration, has produced another invention in the shape of a machine for cleaning and brushing railway carriages. The device, we understand, is an excellent one, and has been adopted by the London and North-western Railway Company.

SUCCESS, says Josh Billings, does not consist in never making blunders, but in never making the same one a second time.

THE immersion of hides for hours in a two per cent solution of carbolic acid, and then simply drying them, has been recently substituted for the tedious and expensive process of salting them for transportation from South America and Australia, and with most satisfactory results. Bones have been similarly treated for transportation.

HOW SHALL I INTRODUCE MY INVENTION?

This inquiry comes to us from all over the land. Our answer is: Adopt such means as every good business man uses in selling his merchandise or in establishing any business. Make your invention known, and if it possesses any merit, somebody will want it. Advertise what you have for sale in such papers as circulate among the largest class of persons likely to be interested in the article. Send illustrated circulars describing the merits of the machine or implement to manufacturers and dealers in the special article, all over the country. The names and addresses of persons in different trades may be obtained from State directories or commercial registers. If the invention is meritorious, and if with its utility it possesses novelty and is attractive to the eye, so much the more likely it is to find a purchaser. Inventors, patentees, and constructors of new and useful machines, implements, and contrivances of novelty can have their inventions illustrated and described in the columns of the *SCIENTIFIC AMERICAN*. Civil and mechanical engineering enterprises, such as bridges, docks, foundries, rolling mills, architecture, and new industrial enterprises of all kinds possessing interest can find a place in these columns. The publishers are prepared to execute illustrations, in the best style of the engraving art, for this paper only. They may be copied from good photographs or well executed drawings, and artists will be sent to any part of the country to make the necessary sketches. The furnishing of photographs, drawings, or models is the least expensive, and we recommend that course as preferable. The examination of either enables us to determine if it is a subject we would like to publish, and to state the cost of engraving in advance of its execution, so that parties may decline the conditions without incurring much expense. The advantage to manufacturers, patentees, and contractors of having their machines, inventions, or engineering works illustrated in a paper of such large circulation as the *SCIENTIFIC AMERICAN* is obvious. Every issue now exceeds 42,000 and will soon reach 50,000, and the extent of its circulation is limited by no boundary. There is not a country or a large city on the face of the globe where the paper does not circulate. We have the best authority for stating that some of the largest orders for machinery and patented articles from abroad have come to our manufacturers through the medium of the *SCIENTIFIC AMERICAN*, the parties ordering having seen the article illustrated or advertised in these columns. Address

MUNN & CO.,
37 Park Row, N. Y.

Inventions Patented in England by Americans.

- (Compiled from the Commissioners of Patents' *American*.)
From July 7 to July 20, 1874, inclusive.
- AMMONIA FROM GAS.—B. Stillman, New Haven, Conn.
 - ARTIFICIAL STONE.—J. O. Friel, Brooklyn, N. Y.
 - BOILER TUBE SCRAPER.—J. Collicott, Boston, Mass.
 - CAR AXLE.—G. W. Milmore, Jacksonville, Fla., et al.
 - CHEMICAL TELEGRAPH, ETC.—T. M. Foote et al., New York city.
 - COAL CUTTING MACHINE, ETC.—H. F. Brown, Indianapolis, Ind., et al.
 - COD LIVER OIL.—J. G. Hava, New Orleans, La.
 - CONSTRUCTING PIERS, ETC.—C. E. Hill, New York city.
 - DAMPING PAPER.—R. M. Hoe, New York city.
 - FERTILIZER.—R. A. Chesebrough, New York city.
 - HORSE SHOE.—G. Dunning et al., Waukegan, Ill.
 - LIGHTING GAS.—E. E. Bean, Boston, Mass.
 - MAKING BOOTS, ETC.—D. Mills, Brooklyn, N. Y., et al.
 - MAKING BOOTS, ETC.—H. G. Thompson, Milford, Conn.
 - MAKING GAS.—W. Elmer, New York city.
 - MAKING ICE, ETC.—J. M. G. Beath, San Francisco, Cal.
 - MATCH IGNITION SURFACE.—L. O. P. Meyer, Newtown, Conn.
 - PUNCHING TICKETS, ETC.—J. H. Small, Buffalo, N. Y.
 - REGENERATOR FURNACE.—M. Foster, Alleghany, Pa.
 - RENDERING FATS, ETC.—H. S. Firmar, New York city.
 - SAW AND HANDLE.—H. Disston, Philadelphia, Pa.
 - SCREW-CUTTING MACHINE.—C. Sellers, Philadelphia, Pa.
 - SIGNAL LANTERN.—Universal Signal Light Company, New York city.
 - SPINDLE AND BOLSTER.—F. J. Rabbeth, Pawtucket, R. I.
 - STEAM BOILER.—G. G. Lobdell, Wilmington, Del.
 - STEAM ENGINE AND GENERATOR.—E. A. L. Roberts, Titusville, Pa.
 - STITCHING AND STRETCHING CLOTH.—A. S. Dismore, Boston, Mass.
 - TUCKER FOR SEWING MACHINE.—J. Barrett, Buffalo, N. Y.

NEW BOOKS AND PUBLICATIONS.

THE POEMS OF VIRGIL. Volume I., containing the Ten Bucolics and the First Six Books of the *Aeneid*. Price \$1.75. Boston, Mass.: Ginn Brothers.

A handsome reprint of classics of worldwide fame, edited with care by Messrs. Allen and Greenough, with notes of great value to the student and translator.

MINING INDUSTRY OF THE STATES AND TERRITORIES OF THE ROCKY MOUNTAINS, including Descriptions of Quartz, Placer, and Hydraulic Mining, Amalgamation, Concentration, Smelting, etc. By Rossiter W. Raymond, Ph. Dr., United States Commissioner of Mining Statistics, etc. Illustrated with Engravings and Maps, and a Colored Geological Map of the United States. 8vo., 540 pp. Price \$4.50. New York: J. B. Ford & Co., 27 Park Place.

There is little need to inform our readers of Professor Raymond's extended knowledge of the topography and resources of the mineral districts of the West. Probably no one has so thoroughly explored these regions, pregnant with the future prosperity of the whole continent, as Professor Raymond, and certainly no one can speak more authoritatively on the subjects of mining and metallurgy. The great experience and information of the author have been admirably elaborated in the volume before us, and we welcome it as a valuable addition to our list of technical and statistical works. It is excellently illustrated, the maps being especially commendable for accuracy and clearness.

STATISTICAL ATLAS OF THE UNITED STATES. Part III.—**VITAL STATISTICS.** New York: Julius Bien, 16 & 18 Park Place.

The third part of this magnificent publication is ready in advance of the others, and consists of charts of the proportional prevalence of various classes of disease and bodily infirmities, as well as of nationality of the people and other valuable statistics. The whole work is to consist of fifty maps, with explanatory text, the expenditure for which has been authorized by Congress; and from the initial section sent us, we are able to assert that no more elaborate or valuable compilation has ever been organized, printed and published. We are indebted to the Secretary of the Interior for the copy of this work.

WILEY'S AMERICAN IRON TRADE MANUAL of the Leading Iron Industries of the United States, with Descriptions of the Iron Ore Regions, Furnaces, Rolling Mills, Bessemer Steel Works, Car, Locomotive, Steam Engine, and Bridge Works, Iron Ship Yards, Stove Foundries, etc. Compiled and Edited by Thomas Dunlap. Price \$7.50. New York: John Wiley & Son, 15 Astor Place.

The promise held out in this very comprehensive title is amply fulfilled in the book, wherein Mr. Dunlap has, with great labor, care, and perspicacity, given an elaborate account of every establishment in the country which makes or uses iron in its trade. It is a complete directory of our most important industry; and the descriptions of the various mines, works, and factories are graphically written, giving the most detailed particulars of every branch of the subject. As a book of reference, it is indispensable; and it is also a very interesting and instructive work for the general reader.

THE LABORATORY is the name of a new monthly journal of the progress of chemistry, pharmacy, medicine, etc. Price 50 cents per annum. Boston, Mass.: W. W. Bartlett & Co.

Recent American and Foreign Patents.

Improved Bottom Plate for Range Chimney.

Hamilton C. Garwood, Jersey City, N. J.—This is a bottom plate for range chimneys having a conical or pyramidal elevation in the middle portion, with an opening and valve at the top, and above the top a pipe or flue for carrying off the odors, smoke, etc., from the range when cooking, and for ventilating the room.

Improved Burglar Alarm.

James H. Whitelegge, New York city.—This invention relates to the construction of safety bolts for burglar alarms; and consists mainly of a spring bolt so constructed and arranged in relation to a hole in the lock bolt that when the lock is acted upon by a key or other instrument from either side it stops the movement of the lock and rings a bell.

Improved Joint Connection for Top Chords of Iron Bridges and Improved Girders and Columns.

Walter G. Coolidge and Edward Hemberle, Chicago, Ill.—The first invention consists of a peculiarly constructed joint piece for wrought iron top chords in bridges having what are known as pin connections, the joint piece being made either of cast iron or wrought iron. This connection is adapted for the construction of the top chords entirely of wrought iron without necessitating any riveting at the place of connection; it further has the advantage of enabling the connection of ties and posts with the pin, being made independent of the top chords, and the chord sections being put on afterward, which expedites and cheapens the labor of the erection of the structure. The same inventors have devised a new form for iron bars for columns, consisting of a plate with ribbed edges. Into the trough of the said plate other plates are fitted to form thickening plates at the ends of the columns. Rolled beams or plate girders are attached to said plates connecting two together. A plain plate, straight or tapered, may be employed between two beams. Pins pass through the ends of the columns. The advantages are superior strength for a given amount of metal, simplicity and cheapness of construction, and accessibility of all exposed parts for inspection and painting.

Improved Boiler Washing Machine.

Reuben Wood, Grand Ledge, Mich.—This is an improved washing machine constructed that the steam and hot suds may be poured upon the clothes while they are in agitation and constantly changing their places, and may flow off, carrying the dirt with it, and may leave the dirt in the bottom of the boiler, so that it will not again be carried up and deposited upon the clothes. By suitable construction, as a cylinder is revolved, the clothes will be carried up by the wings and flanges nearly to the top of the cylinder, when they will give way in the middle of the mass, and fall back into the bottom of the cylinder, so that they will be all the time changing their position, and all the time will have streams of steam and hot water discharged upon them, so that they will be washed clean in a very short time. The water, as it flows back into the space beneath the false bottom, carries with it the dirt taken from the clothes, and leaves it there, so that very little of said dirt will again be thrown upon the clothes.

Improved Steam Boiler.

Carlos A. Clark, Bloomfield, Iowa.—This is a boiler constructed with two steam domes connected with each other by tubes, and with horizontal steam-generating tubes by vertical tubes. The steam may be used from the upper tube or from either of the domes, as may be found most convenient. With this boiler, fuel may be utilized to a great extent. No large body of water is to be heated, and danger of explosion is less than with ordinary boilers.

Improved Horse Blinder.

John W. Kennedy, Central Village, Conn., assignor to himself and William H. Kennedy, Oberlin, O.—This invention consists of a blinder made independent of bridle or halter, and applicable to prevent horses from jumping over fences and thereby escaping from a pasture. It passes under the eyes, stopping all vision from side views as well as front, and as the horse approaches a fence, not seeing it or the ground on the opposite side, he fears to and will not leap the fence.

Improved Curtain Fixture.

Levi Bradbury, Bennington, Vt.—The brackets are made of wire with one or more convolutions to form springs, and with prongs, so that they may be driven into the wood, and fastened without screws or nails. These spring brackets are made to press against the ends of the roller with any required amount of friction to hold the curtain in any desired position.

Improved Hay Elevator.

Uel H. Shockley, Ringville, Kan.—In this hay elevator a carriage is arranged to travel horizontally and carry a bundle of hay suspended by the cord, by which movement is imparted to the carriage. The improvement relates to the construction and arrangement of parts, whereby, when the carriage has reached the place of deposit for the hay, the suspending rope may be swung laterally to free it from hinged doors or clamps, and allow the load or bundle to descend.

Improved Feed Water Heater.

Richard Garstang, St. Louis, Mo.—This invention consists of a feed water heater composed of two cast metal oval heads, with short cylinder attachments, connected to an intermediate cylinder containing tubes fitting into tubesheet in the cast metal cylinders. This forms a heater of three compartments, in one of which is a filter, and in another of which the feed water is supplied in direct contact with the waste steam, after which it is forced by a pump through the other compartments, also through the tubes surrounded by the exhaust steam, and also through the filter into the boiler all in a way calculated to be very efficient in heating the water.

Improved Hog Ringing and Marking Instruments.

Philip Listemann, Collinsville, Ill.—This invention consists of pinchers so constructed that a semicircular ring blank for the hog's nose is formed, and the ring blank inserted. The partly finished ring blank is placed in the grooves of the jaws, and, in this position, it is slipped on the upper cartilage of the hog's nose, the jaws are compressed, and the ring blank is inserted. The blade for marking a hog shuts into one of the levers.

Improved Machine for Making Hollow Cylinders of Paper.

Marble D. Keeney, Rockton, Ill.—This invention consists of a forming roller, which is keyed to the free end of a shaft driven by suitable power, and constructed of two semicircular sections. These are pivoted by their diametrical arms and fulcrumed at some distance from one joint of the sections, while the other joint is acted upon by a pivoted wedge piece, so as to hold the edge of the continuous paper firmly in the clamping joint by spreading the other joint, and form then the box or barrel on the roller.

Improved Journal Bearing.

De Witt C. Clough, Aurora, N. Y.—This invention consists in a journal box, cast with longitudinal side grooves or channels, extending between shoulders near the face parts for producing a firm binding of the Babbitt metal lining cast therein.