

Mightiest Engine of War Known to Man.

In His Aerodrome, Propelled by a Liquid Air Engine and Buoyed by Liquid Gas, Prof. Langley Has Solved the Problem of Aerial Navigation.

Before America's newest engine of war the Rock of Gibraltar will be no more impregnable than an egg-shell; the armies of the world will be as helpless as swarms of ants under foot, the great coast fortifications will be no more powerful than paper boats floated by lads on stagnant pools; and the great coast fortifications along both hemispheres will be as breakable as the toy furniture in children's playhouses.

Ferdinand Graf Zeppelin, general a la suite of his majesty the king of Wurtemberg, who has been experimenting extensively of late in improvements upon balloons. He has been engaged since May of last year, when Prof. Nasini, of Padua, Italy, announced his discovery of coronium, a gas many times lighter than hydrogen, which at that time was the lightest gas with which the scientific world was familiar in rendering commercially practical the use of a gas with a lifting power nearly five times as great as anything heretofore known. Herein is one of the secrets of Prof. Langley's new flying machine, and one that is a radical departure from the principles which have governed his former efforts.

for the engines and the other as a lookout or pilot, who has charge of the steering or directing apparatus. On entering the machine the doors are first to be securely fastened, and then the liquid gas, which has been stored in the refrigerating tanks, is vaporized to fill the balloon. As the lifting power becomes sufficient the machine is gradually lifted bodily from the ground, and after clearing all obstructions the engines are started. As the vessel gains headway and is thus maintained in the air by its own momentum the gas in the balloon is again gradually liquefied and the balloon is drawn down closely over the top of the car in order to present as little surface for wind obstruction to the movement of the flying machine as possible.

Perched high in the air, going faster than a locomotive, and soaring like a mighty eagle, the aerodrome can drop bombs upon the earth beneath more terrible than the awful cyclones that devastate the West. Prof. Langley has conquered the winds and evolved a flying machine that is as absolutely under the control of man as is the modern locomotive.

It is believed, however, that by combining the lifting power of the balloon with the steering ability of the aerodrome, and considering that the car carries its own supply of fresh air, greater altitudes can be reached than have ever before been possible. What new discoveries in science this will make time alone will tell. The flying machine can alight upon the ground as lightly as a bird. The balloon is gradually inflated as the engines are brought to a standstill. Then by increasing or diminishing the supply of gas in the balloon the car can be deposited upon the ground without a perceptible jar.

It is not by phenomena that great lives are made up. No careers of high utility are the consequences of accident. The wrecks of manhood and womanhood that strew the ways are logical results. Cause and effect always can be traced. There are not careers of high utility that are the result of accident. The wrecks of manhood and womanhood that strew the ways are logical results. Cause and effect always can be traced. There are not careers of high utility that are the result of accident.

THE AERODROME IN FLIGHT, MAKING FASTER TIME THAN A RAILROAD TRAIN.

He has produced, in addition to its value as a war instrument, a machine that will economize space, that will annihilate distance by means of its unprecedented speed, that will render air travel safer and more pleasurable than land transportation, and that can snatch from a sinking vessel its human freight in utter defiance of winds and waves. He has made practical the economical transportation through the air at a speed that will permit letters mailed at Chicago in the evening to be delivered in New York the next morning.

wonderful powers. It furnishes power for the engines; it reduces to a liquid the buoyant gases that are the initial lifting power of the machine; it supplies fresh air for the car at all times, and it is an ever-ready refrigerator for those fragments and other food products that may be wanted on a long voyage. A limited quantity of this valuable element is stored in tanks under the floor of the car.

value of the aerodrome of 1898. Through him America is the first to conquer the air, and the two hemispheres lie helpless under her wings.

Prof. Langley's work has been surrounded by the deepest mystery, and it has been almost as difficult to secure any intimation as to what he has accomplished as it would be to wring from nature the secret for which he and numbers of the most brilliant men of the century have been striving.

LIQUID AIR AIDS. The recent inventions of Charles E. Tripler have made it possible to operate a twenty horse power engine and perform all the other services that are required of it, while at the same time reproducing itself in sufficient quantities to increase rather than decrease its bulk and power.

OFFICER ATTACHES ELEPHANT. Constable Levies on Circus Animal and Forces Settlement of Claim. ANDERSON, Ind., July 1.—One of the performers of the Harris Nickel-Plate show quit here today and demanded his share of the money.

INVENTOR'S MANY FAILURES. This convinced him of the feasibility of constructing a machine that could fly by its own power, and he set to work to build it. His first machine was designed to weigh twenty-five pounds and develop one horse power, but when completed its weight had increased to forty pounds, and yet could not develop over a fourth of the calculated power.

LIKE THE WINGS OF A BIRD. Above these wheels and extending from each to end of the flying machine is a curve slightly drooping toward the rear as the wings, or sails. Each sail extends twenty-four feet from the side of the car, and considering the width of the car, six feet, the total width of the aerodrome from tip to tip of its wings is fifty-four feet.

Teachers. Very low rates to Los Angeles, California—June 25 to July 8 inclusive—good for return until Sept. 4, 1899. Via the North-Western Line—St. P., M. & O. Ry. For further particulars apply to J. McCarty, City Ticket Agent, 365 Robert street, St. Paul.

BOOKS OF THE HOUR

MURAT HALSTEAD'S "LIFE AND ACHIEVEMENTS OF ADMIRAL DEWEY"

A BOOK OF MUCH MERIT

Selections From the Manuscripts of Lady Louisa Stuart—Her Literary Efforts Kept Carefully Secret, Even From Her Sisters—The Thirteen Colonies—Other Books of the Week.

"The Life and Achievements of Admiral Dewey," by Murat Halstead. Dominion Publishing Company, Chicago. For sale by the St. Paul Book and Stationery Company.

"Fortune's My Foe," by Bloudeau Burton. D. Appleton & Co., New York. For sale by the St. Paul Book and Stationery Company.

"Outlines of Sociology," by Carroll D. Wright, Longmans, Green & Co., New York.

"Out of Nazareth," by Charles R. Hardy. F. Tennyson Neely, New York. For sale by the St. Paul Book and Stationery Company.

"The Pure Causeway," by Evelyn Harcourt Roberts. 24 pages. Paper, 50 cents. For sale by the St. Paul Book and Stationery Company.

"The Story of the Thirteen Colonies," by H. G. Guerbert. 32 pages. Illustrated. Price, 25 cents. For sale by the St. Paul Book and Stationery Company.

"Second Year in German," by I. Keller. Professor of German in Normal College, New York. Price, \$1.20. American Book Company, New York, Cincinnati and Chicago.

"The Christian Endeavorers." Hold their 6th annual convention at Detroit, Mich., July 2 to 6. Tickets on sale at 400 Robert street, St. Paul, and 365 Nicollet avenue, Minneapolis.

Cut Rates to the East. Via the Wisconsin Central Lines. Trains leave at 7:45 p. m. every day. City Ticket Office, 315 Robert St.

pany, Chicago. 346 pp. Paper, 25 cents. The writer of this done with American politics as seen at their lowest ebb. The descriptions of a legislative lobby suggest the familiarity of a newspaper man, or other chronicler of the scene, and the roughness, rhetorically, and evident haste which mark certain chapters lend support to the suspicion that it is a newspaper man's production.

"Fortune's My Foe," by Bloudeau Burton. D. Appleton & Co., New York. For sale by the St. Paul Book and Stationery Company. This tale opens amid stirring scenes the British squadron Ariadne, a vessel of war, is sent to the aid of the bombardment of the coast of Cartagena in the early part of the eighteenth century.

"Out of Nazareth," by Charles R. Hardy. F. Tennyson Neely, New York. For sale by the St. Paul Book and Stationery Company. Here is another of those Southern stories which seem to envelop the South. It has local color, too, and that in an almost untold field. The Suggs family are the central figures in this story.

"The Pure Causeway," by Evelyn Harcourt Roberts. 24 pages. Paper, 50 cents. For sale by the St. Paul Book and Stationery Company. The author inscribes this work to Prof. George D. Herron as "by one who has learned the satisfaction taught by Jesus is not for each, but for all, and that it is in your power to make this salvation a present fact."

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Pure and Delicous. IS THE VERDICT OF THOSE WHO HAVE TRIED OUR LATEST BREW OF Pabst Doppelbraeu. This is a dark beer, fresh and superior in every respect to best imported article. It is backed by fifty years of practical brewing experience and stands to-day as the finest beer ever produced in America. Export Bohemian Bavarian Blue Ribbon Select. Each a Leader in its Class.

pare a "Second Year in German." The general plan of the first book is continued in this volume, but its scope is enlarged to meet the requirements of pupils as they progress in the study. The reading matter in most of the lessons of this volume is longer than in the first book. This was made possible through the burdening the student with too large a number of new words in each lesson; first, by an extensive use of the vocabulary, and secondly, by devoting much attention to a systematic treatment of the derivation and formation of words.

"French Sight Reading," by L. Rogers. A. B. high school, Cambridge, Mass. Boards, 12 cents. For sale by the St. Paul Book and Stationery Company. The object of this book is to furnish a systematic course of exercises for French sight reading. The reading exercises are preceded by well selected vocabularies of twelve words each, making together a list of nearly 1,000 carefully selected words, which, when fairly mastered, will give the pupils the ability to read with ease all the exercises and other ordinary works.

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\$100.00 in Gold Free. THE BEST THAT EVER. Telephone 972 for a case. Theo. Hamm Brewing Co. St. Paul, Minn. BRAINS COUNT. We will give \$100.00 in gold to any one who will arrange the twenty most valuable words in the English language in three well-remembered words. Answer by mail, enclosing three well-remembered words. After you have found the three correct words, you will have secured interest in the twenty words as many times as it appears. The money will be paid August 15th, 1899. Should you have several correct answers, the first correct answer will be the one that will win the prize. The words are: A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z. Write at once.