

LANGLEY PIONEER AERIALIST

Noted Experimenter Had Faith in the Power of Men to Fly.

PROVED MANY OF HIS THEORIES

Continued Experimenting While Secretary of Smithsonian Institute and Never Flattered in Belief Even When Ridiculed.

The story of Samuel Pierpont Langley's study and experiments in aeronautics is one that appeals not only to the engineer and others directly interested in the subject, but to the public as well. It is a story not generally known, since it starts back in the year 1857, some time before many serious minded people considered aerial navigation practical for heavier than air machines, and continues for nearly sixteen years. During that time Mr. Langley created and demonstrated many steps now invaluable to this modern and permanent science.

In 1886 he became assistant secretary of the Smithsonian Institution, and in the following year, upon the death of Prof. Baird, he succeeded him as secretary of that institution, where the nearest and best administration of its various branches with his own investigations and studies, until his death in 1906. In recognition of his scientific researches, Mr. Langley was the recipient of degrees and medals from the foremost universities and scientific societies in Europe and America.

From his first studies with toy aeroplanes propelled by rubber bands to his final experiments with a man-carrying machine propelled by a gasoline engine, the like of which has hardly been surpassed to the present day, the story of his endeavors, handicaps, failures and successes, holds the attention of the reader with an interest not unlike a romantic narrative. The memoir just published deals largely with experiments and their results, which are now accepted as the basis of our knowledge. At the time they were made, however, they were the first steps of a great scientific groping in the dark, and he well deserves the title given him as the First Bird-man.

Having secured a grasp upon the elementary theories of wind resistance, and matters pertaining to aviation, Mr. Langley started in to build a model heavier-than-air machine, the first that had ever been built, since the nearest approach at that time to such a flying machine, was an ingenious invention of the Frenchman, Penaud, who flew a paper toy, propelled by means of rubber bands, for ten seconds.

Secretary Langley undertook to build a larger and more practical machine, not simply for proving the theories upon which he had been working, but because he said it was impossible to learn more about the principles of flight without studying flight itself. In 1882 he started building the first of his steam driven models, but it was four years before successful flight was accomplished. The problem was difficult and discouraging, especially for one who had only a casual knowledge of steam engineering. There was ample literature on the subject, but there might as well have been none for all the assistance it gave, with steam engines rated light at 200 pounds to the horsepower. What Mr. Langley needed was just about one-fourth of that weight and one and a quarter horsepower. Success at last attended his efforts, but only after a tremendous loss of time and energy. Ten or twenty boilers and as many blast lamps were made and discarded before he secured a combination that would keep up a pressure of 120 to 150 pounds of steam for the time desired. And in the meantime he had been studying other ways, he set about building an engine himself, although practical engineers told him it was impossible, and he eventually produced one weighing only twenty-three ounces, which with the whole power plant, burner, boiler and fuel weighed seven pounds and produced one and a quarter horsepower. Success at last attended his efforts, but only after a tremendous loss of time and energy. Ten or twenty boilers and as many blast lamps were made and discarded before he secured a combination that would keep up a pressure of 120 to 150 pounds of steam for the time desired. And in the meantime he had been studying other ways, he set about building an engine himself, although practical engineers told him it was impossible, and he eventually produced one weighing only twenty-three ounces, which with the whole power plant, burner, boiler and fuel weighed seven pounds and produced one and a quarter horsepower.

Don't regard any case as hopeless until you ask Dreshers; no matter what there is to be done to a garment, the Dresher force can do it if there's anything left of the garment.

BRANDEIS STORES OPEN UNTIL 1 P. M. MONDAY LABOR DAY KINDLY ARRANGE TO DO YOUR SHOPPING BEFORE THAT TIME

1911 Clothes Transformed to 1912 Garments Dresher Bros., Cleaners, Dyers, Alteration and Repair People Promise This for Early Comers.

If you'll take the trouble to do it now, you might do wonders in the way of economy; you will be able to take the suits, skirts, dresses, jackets and overcoats you wore last year and have them dry cleaned, altered to meet the style requirements of the coming fall season, and even entirely refitted or dyed to another shade if necessary. Dreshers maintain an exceedingly capable force to do this sort of work; not merely one or two general workers, but a force of experts in each line.

Take time by the forelock; gather up all of your last season's clothing and have Dreshers fix 'em up, and be pleasantly surprised in regard to what may be done at a comparatively small cost.

Leave the work at Dresher Bros.' plant at 2211-2213 Farnam Street, or phone Tyler 1399 or Auto A-2226.

Don't regard any case as hopeless until you ask Dreshers; no matter what there is to be done to a garment, the Dresher force can do it if there's anything left of the garment.

Relief for the tireless servers of suffering humanity. Tired, aching feet are bound to be the result of many hours of standing or walking in ordinary shoes. For women who are compelled to be on their feet a great deal we have a new dark brown kid, high top lace shoe, made of specially tanned leather. Vegetable tanned soles that neither burn or draw the feet, very flexible and easy on the feet. The ideal footwear for nurse or saleslady. Hundreds of pairs are now giving perfect satisfaction right here in Omaha.

A Shoe for Nurses \$4.00 Drexe Shoe Co. 1413 Farnam Street.

The government became interested in Mr. Langley's work early in 1885, recognizing the possibility for the use of such a machine in time of war. Through the Board of Ordnance and Fortification, President McKinley asked Secretary Langley to build a man-carrying flying machine. The secretary agreed to try, and coming reluctantly from his scientific pursuits, he commenced the work under an appropriation from the government. Many unforeseen obstacles were encountered as had been the case in the construction of the model machine. One that had been anticipated for steam as a more practical motor power, and Secretary Langley, then at the age of 31, found it necessary to devote the study of gasoline engine construction. He had no desire to build a gasoline engine himself, but after searching in vain, both in this country and in Europe for an engine-builder who could make him an engine averaging in weight only ten pounds per horsepower, he was forced to undertake its construction in the Smithsonian shop.

School Days School Shoes MEAN That's why we pay so much attention to the material that goes into the children's shoes we sell. It must be of unquestionable quality.

The strenuous antics of the average school boy or girl of today, put their shoes to the severest test. All styles and all leathers, priced from— \$1.75 to \$2.50 The best shoe value in Omaha.

Fry Shoe Co. 13th and Douglas Sts. ABOVE ALL IN QUALITY

For Home Consumers -PHONE- Doug. 119; Ind. A-2119 Wm. J. Boekhoff Retail Dealer. Office, 803 So. 7th St.

There are no crop failures in The Virgin Valley of Southern Utah Great crops of all fruits, grains, grasses peculiar to semi-arid regions are grown with ease and produce with astounding fecundity. The Virgin river, one of the largest in west, irrigates whole valley. This valley has no winter. It is one of earth's beauty spots. Write for information to W. F. Porter, Special Agt. 621 to 626 Boston Bldg. Salt Lake City, Utah. "You will do better in Utah—the best of the west"

Ranch Wanted In exchange for a very desirable investment property in Cambridge, Mass. 7 minutes ride from the Boston State House, modern, 7 story apartment house of deep red and milk-faced brick with Indiana limestone trimming, containing 28 suites of 4 and 5 rooms each and all modern improvements, always rented to good tenants; rentals about \$11,000. Will stand strictly investigation. Desires ranch worth from \$50,000 to \$80,000; price of Cambridge property \$125,000, assessed for \$110,000. For particulars address Geo. H. Prescott, P. O. Box 1883, Boston, Mass.

The Omaha Bee Great Booklovers' Contest WE ARE GOING TO BEAT MICHIGAN

What Book Does This Picture Represent? Title Author Your Name Street and Number City or Town Write in title and author of book and SAVE coupon and picture. Send no coupon until finish of the contest is announced.

Rules of the Contest All persons are eligible to enter this contest except employees of the Omaha Bee and members of their families. Each day, for seventy-five days, there will be published in the Bee a picture which will represent the name of a book. Beneath each picture there will be a blank for the contestant to fill in the title of the book.

FIRST PRIZE Value \$2,000 White Steamer Automobile A 5-passenger 1911 Model White Steamer Touring Car—odorless, smokeless and noiseless.

SECOND PRIZE Value \$1,250 In the soft, semi-tropic, climatic zone, extending north from San Diego to Shasta County, California, lies Tehama county, in which is situated this beautiful little 10-acre ranch near the town of Red Bluff.

THIRD PRIZE Value \$900 The magnificent, fancy walnut KRELL AUTO GRAND FLAXER-PIANO which nothing can excel.

FOURTH PRIZE Value \$275 Ralston is to be a manufacturing city. They have a fine start with the Brown Truck Manufacturing Co., the Rogers Motor Car Co., and the Howard Stone Works.

FIFTH PRIZE, Value \$225 In the same town and with the same prospect of advancement, the Bee has selected the only interurban trolley line running out of Omaha, and within forty minutes of the Omaha postoffice.

SIXTH, SEVENTH AND EIGHTH PRIZES This ingenious encyclopedia, which is a development rather than a mere compilation, increases the value of hundreds of editors' mental faculties to make one of the greatest encyclopedias ever compiled.

NINTH AND TENTH PRIZES These prizes consist of twenty-four volume cloth bound sets of the "Book of Knowledge," an encyclopedia made especially for children and sold at \$5 a set. This work is written in simple language and is a "wonder book" in that it makes simple all knowledge necessary to broad education.

Monday, Sept. 4th, Labor Day Store Will Close At 1 P. M. HAYDEN'S STORE Scores of splendid bargains shown for the morning shoppers. You'll find it will pay you to come early.

SILKS Values up to \$1.50 Per Yard, on Sale... 38c and 68c Over 3,000 yards of plain and novelty silks in this lot including 27-inch All Silk Messalines, 36-inch Novelty Silks, 20-inch Satin Barred Plains, 24-inch Messaline Raye, all new silks made for this season's selling, at, per yard... 38c and 68c

75c Embroideries 25c Special for Monday Morning—Beautiful 18-inch and 27-inch embroidery Flouncings made to sell at 75c per yard, choice, at 25c

New Wool Suitings 48-inch to 56 inches wide, values up to \$2 per yard; on sale at— 48c, 68c and 98c

Specials in Domestic Room H. Blanket good and heavy, grey with colored borders, our regular \$4 value; on sale, at, per pair... \$3.25

MONDAY, THE VERY BEST TIME TO ORDER FRUIT FOR CANNING. Italian Blue Plum Sale Monday These are very fine and fancy fruit, packed four baskets in a crate weighing from 25 to 30 pounds.

TRY HAYDEN'S FIRST These and many other rousing specials will make Monday forenoon a very busy time for us, and a profitable time for you if you'll

Where Booklovers' Second Prize Is Scene in Tehama County, California, on Land Owned by Trowbridge-Bolster Company of Omaha.

DRS. MACH & MACH DENTISTS Successors to BAILEY & MACH Neatest equipped dental office in Omaha. Highest grade dentistry at reasonable prices.

COMPARE FOR YOURSELF. Measure The Bee against other local papers in respect of quality as well as quantity of timely news and interesting articles from day to day and TheBee's superiority will be demonstrated