

Recent Advances In the World of Aeronautics, And the Mammoth Stanley Air Ship of Aluminium

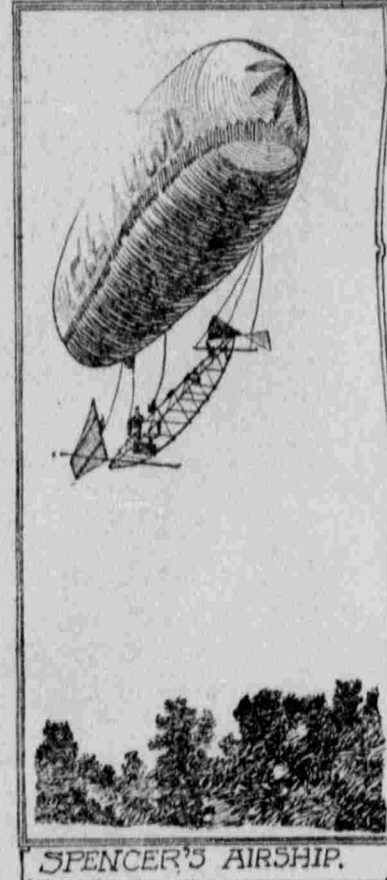
TEN years ago the man who announced his intention of spending a small fortune on a something designed to navigate the air was regarded as a crank. The claim that even the dirigible balloon was a possibility was laughed to scorn by the wisecracks, and the advocates of the theory that an air ship could be driven against the wind had a hard time of it. "How," asked their critics, "is it possible to do this when the vessel itself is supported by the same air against which you seek to force it?" These people did not seem to recollect that a steamboat may be sent at high speed against a strong current. But the aeronauts had that in mind, and ever since have been on a still hunt for motors which being so light as not to absorb very much of the lifting power of the air ship would still be powerful enough to overcome the resistance of an adverse current of air. In other words, it was realized that but two elements had to be provided—lightness of equipment and enormous dynamic force.

Children are frequently mistaught at school that a bird is able to fly because when it inflates its air sack it becomes lighter than air. This is absurd, as may be easily demonstrated by filling and stopping up this air sack and then killing the bird. It will fall just as fast as any body of equal weight. The bird flies on the aeroplane system. In other words, it presents a certain angle to the air and is enabled to sustain itself therein by means of the marvelous power of its rapidly moving wings. No one has ever seen a hawk circling upward with wings spread immovably; his direction is always slightly downward, his wings performing the office of a parachute. But the moment the hawk wishes to rise he tips his body slightly upward and begins to vigorously work his powerful wings against the only slightly resisting air. Even a dove or wild pigeon in almost parallel flight keeps its body in a somewhat rising position, and its body, propelled by a series of convulsive movements of the wings, really describes a series of convex arcs, however slight they may appear. This is particularly noticeable in the flight of the ordinary sparrow.

In short, the point which all investigators of aerial navigation have had to decide in advance is whether they should build vessels lighter than air and depending upon a lighter gas for buoyancy or fall back upon the aeroplane or bird principle and depend for buoyancy upon the dynamic energy created by artificial means. Santos-Dumont, Spencer and a host of other experimenters have stuck to the gas bag or balloon idea, while Langley, Maxim and many really great inventors, realizing that the gas bag models offered nothing new

in aeronautics, have devoted themselves to the problem of devising aeroplanes, relying for buoyancy upon their own construction.

Santos-Dumont is perhaps the most famous because the most reckless living aeronaut. Indeed, most reckless aeronauts are not living. While many of his predecessors had made short flights in his so-called dirigible balloons,



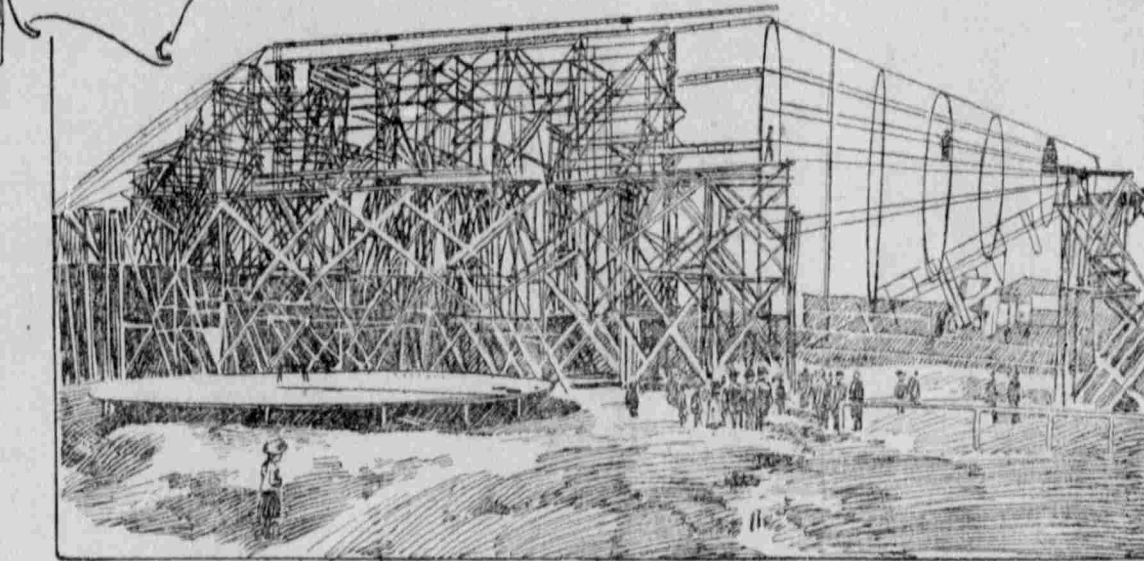
SPENCER'S AIRSHIP.

he was the first man to make a set flight of great length, part of the way against a wind fairly strong, and return within a specified time to the starting point. Last year Stanley Spencer of London made a twenty mile flight over London and was deterred from circling the dome of St. Paul's only by the heavy fog. So, determining to take no unnecessary chances, he set a course for the open country, where he safely alighted.

The greatest trouble hitherto with the dirigible balloon has been the impracticability of making it sufficiently strong to withstand the buffeting of strong winds, as a heavy frame would consume all of the lifting power of the gas even if the motor were of sufficient strength to propel the vessel after it had risen. Indeed, it was the weakness of the frames which caused the two fatal disasters in Paris last year, the first to Auguste Severo, a young Brazilian who sought to emulate the example of his fellow countryman, San-



STANLEY SPENCER.



THE STANLEY COMPLETED.

BUILDING THE STANLEY.

tos-Dumont, and the second to Baron de Bratsky, a wealthy Hungarian, and his engineer. Both of these balloons collapsed in midair, twisting the light,

skeleton framework into an inextricable mass, the whole falling in each case many hundreds of feet. These experiences taught Spencer a lesson, and when he made his famous ascensions it was in a balloon which, while not nearly the largest, was undoubtedly the strongest ever built. Santos-Dumont, too, is said to have taken the lesson to heart to the extent of building his machines more substantially than ever before.

Naturally every one even remotely connected with aeronautics is deeply interested in the \$200,000 contest to be held next year at the Louisiana Purchase exposition at St. Louis. Most of the air navigators have been prompted by the liberal prize offered to prepare

The Stanley will be of aluminium, and her total length will exceed 228 feet. The building of this enormous ship involves the expenditure of a moderate fortune, but the gentleman who is furnishing the funds is an enthusiast on the subject of aerial navigation, and it is his purpose to spare no expense. The fact that the outer skin is of aluminium will effectually do away with the possibility of collapse excepting under stress of the most violent gales, and leakage of the gas employed for lifting purposes is obviated by the employment of a lining of specially prepared silk inside the shell of aluminium. Then, too, while the aluminium provides great rigidity, the weight of the metal is so slight as to render it

her predecessors, but she will differ radically from anything that has yet appeared in that she will have no basket depending from the "gas bag." The colossal cylinder is divided along its entire length by a wide sheet of aluminium, and it is in the space below this that the passengers, engines, supplies and crew will be carried. The upper plane, in turn, will be divided into six hydrogen gas compartments, each lined with silk as already explained. In case of accident to one or even two or three of these compartments the Stanley will do nothing more dangerous than sink slowly to Mother Earth.

As the lifting capacity of the Stanley will be nearly eleven tons, and her weight but about six tons, exclusive of passengers, she will have enough surplusage of buoyancy to admit of carrying quite a crew and a large quantity of supplies.

The shape of the Stanley is the one generally accepted as offering the least resistance to the wind, and inasmuch as her propelling fans will be located at the apex of the cone at each end, their driving power ought to be much greater than that of any device yet applied to aerial craft. The lateral direction of flight will be regulated by rudders placed under these propellers, while wings or fins at the sides of the ship will enable her operators to send her upward or downward.

And right here is one of the strongest points of the Stanley. While hitherto it has been possible to deflect a dirigible balloon upward or downward, either operation has involved the throwing of the vessel out of the perpendicular. But by means of these fins on the Stanley she may be made to rise without once losing her "plumb" position. Another strong point is to be found in the propellers on top of the Stanley. By means of these she may be forced downward on an even keel without the necessity of letting out any of the gas. Naturally, too, these top propellers will be of material aid in rising whenever the ship shall have attained to as great a height as her buoyancy will carry her.

Sir Hiram Maxim, the inventor of the gun which mows soldiers down as a scythe cuts grass, is also much interested in the problem of aerial navigation. He declares, however, that he will not devote a moment of his time to experiments with any form of vessel in which the buoyancy is supplied by means of gas. Such devices he considers valuable as demonstrating the dirigibility of the machine, but as teaching nothing concerning the true air ship, which, he declares, must use the forces which nature provides to attain its flight. Otherwise and until then, in his opinion, there can be nothing tangible in the way of progress toward the goal of successful aerial navigation. These are substantially also the views of Professor Langley of the Smithsonian institution, and strong efforts will be made to induce both of these scientists to enter airships in the great \$200,000 competition at St. Louis next year.

WILSON G. LOWELL.

THE SULTAN OF JOHORE, WHO IS COMING HERE.

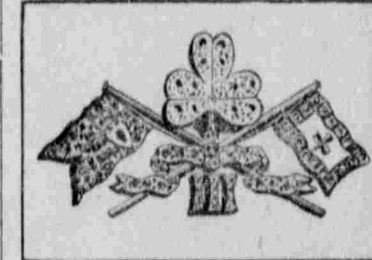
We have had a crown prince here and the brother of an emperor, but we have never experienced the ineffable ecstasy of having a real sultan "in our midst." However, we are not long to be without that pleasure, for the sultan of Johore has announced that he will visit



us in 1904 for the primary purpose of making a tour of the United States and incidentally "taking in" the St. Louis world's fair. The sultan is the ruler of the remnants of the old Malay empire. He is, in fact, the only independent ruler in the Malay peninsula. He has been the sultan for about five years. He is twenty-seven years of age, a fine sportsman and a pretty decent sort of fellow all around.

A SHAMROCK BROOCH.

The illustration shows the brooch which Sir Thomas Lipton presented to the Countess of Shaftesbury on the occasion of the christening of his new yacht, Shamrock III. The countess was the sponsor for the boat. It is said



that Sir Thomas intends to have the same design carried out on a number of scarfpins and link buttons, which he will present to his guests during the cup races—if the Shamrock III. should prove successful. If that is the condition, it is not likely that the sportsman-like baronet will be put to this expense this season.

In South Australia there exists a language test for intending immigrants. Unless a man can speak or write English he is not permitted to land.

Unique Phases of Life From All Over the World, Strange People, Interesting Scenes and Famous Folk

THE KAISER'S ONLY DAUGHTER.

The accompanying illustration was made from the most recent photograph of the only daughter of the august emperor of Germany, who is said to exhibit toward this little miss a tenderness of which he has never been suspected. Princess Victoria Louise is not yet eleven



en years old; but, so far as indications go, she promises to be in time one of the most beautiful as she is today one of the most lovable and gracious princesses of Europe. It goes without saying that Victoria Louise is much petted, but she is a very sensible young lady.

A CEYLON SURF BOAT.

The illustration shows a Ceylon surf boat which is also used for fishing purposes. This is the case not because the craft offers any peculiar advantages for the purpose for which it is used, but be-



cause of the fact that as Ceylon is almost entirely surrounded by reefs and there is constantly a terrific surf nothing short of surf boats would be able to get out to the open water. The fishermen in Ceylon are a very peculiar lot. They form a caste of their own and appear to think themselves better than the people upon whose purchases their daily bread depends. They are able to do all sorts of stunts with these surf boats, and, considering their flimsy construction, it is really remarkable how few accidents occur.

A YOUTHFUL PLAYWRIGHT.

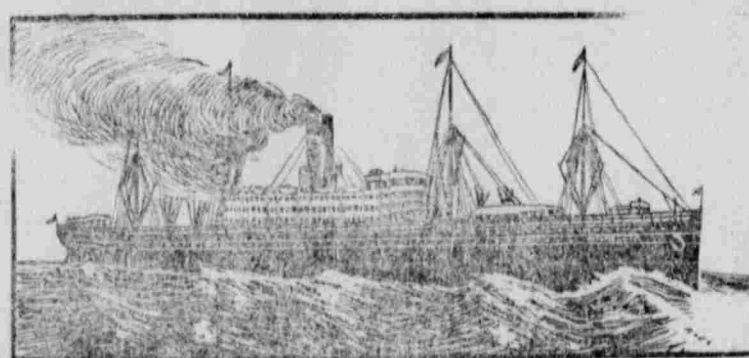
Miss Constance Smedley, whose curtain raiser, "The Honor of a Rogue," written in collaboration with Mr. Cosmo Hamilton, will be seen in this country next season, enjoys the distinction of being the youngest woman that ever had a play produced in London, the theatrical metropolis of the world. Her first play was "Mrs. Jordan," a one act piece in which Mrs. Patrick Campbell scored a marked success about three



CONSTANCE SMEDLEY.

years ago. Miss Smedley is an artist, and the work of her brush has been favorably commented upon by some of the severest critics of London. She is not yet twenty-one years of age, and if she should fail to become one of the prominent playwrights she will disappoint hosts of good judges.

THE LARGEST VESSEL EVER BUILT IN AMERICA.



The Minnesota, recently launched at the yards of the United States Ship-building company, New London, Conn., for the Great Northern Railroad company, is the largest vessel ever built in America and has the greatest freight capacity of any ship in the world. She is 630 feet long, nearly 74 feet wide and 56 feet deep. She has nine decks. The Minnesota will ply between Seattle, Honolulu and Yokohama, and in order to make these long trips she has been provided with bunker space for 6,000 tons of coal, which will be automatically delivered to the stokers. Her total carrying capacity is about 30,000 tons dead weight. The Minnesota will not be an "ocean greyhound," her speed being only about 14 knots, but every provision has been made for the comfort of passengers and crew, and several novel features introduced in her construction have resulted in a great economy of space. It is said that if the Minnesota should prove as successful as is hoped for the purpose for which she is intended several vessels of exactly similar model and size will be built as soon as possible for the Pacific trade. It is believed that vessels of such enormous carrying capacity, where there will be no abnormal consumption of coal in the effort to get great speed, will be more economical of operation than any steamships ever built.

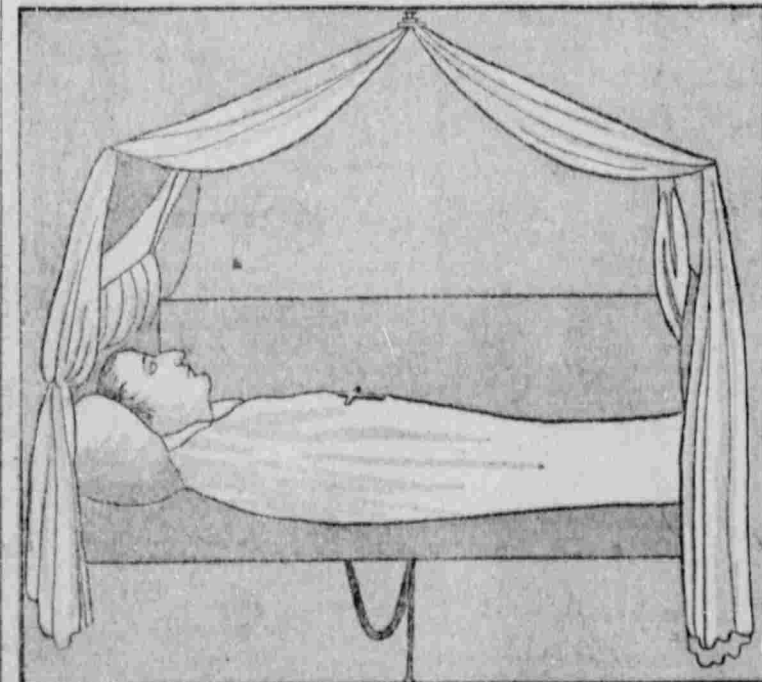
THE CAVE DWELLERS.

It is only at rare intervals that remains are discovered of the prehistoric cave dwellers, but in the illustration are shown the skeletons of two that were found not long ago in a grotto owned by the Prince of Monaco in Mentone. They represent an old female and young male, probably mother and son, and were found at a depth of



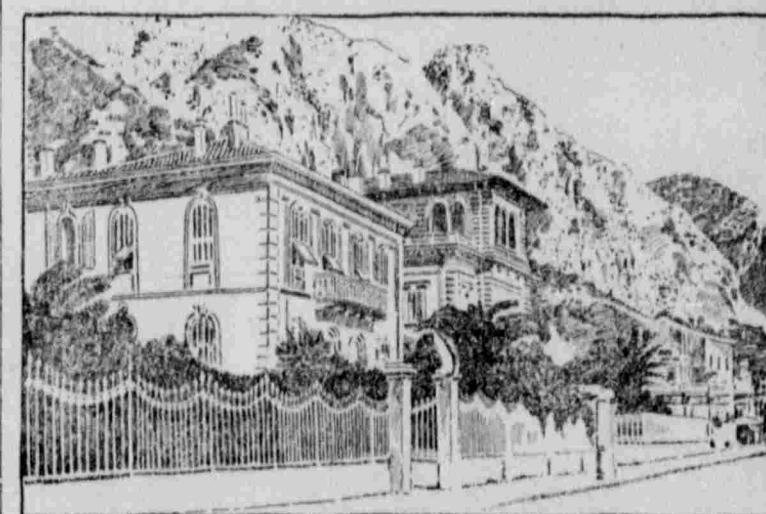
twenty feet from the general surface of the land. Scientists who have examined the skulls pronounce them among the oldest human remains ever brought to light, the jaws more resembling those of apes than of human beings.

MARRYAT'S SKETCH OF NAPOLEON ON HIS DEATHBED.



Miss Florence Marryat, the daughter of the famous Captain Marryat, has recently placed at the disposal of publishers an interesting album of sketches made by her celebrated father. Perhaps the most notable of the collection, not because of its execution, which is exceedingly crude, but by reason of the subject, is the one herewith reproduced. It shows the great Napoleon on his deathbed at St. Helena and was made a couple of hours after the "Little Corporal" had passed away. Captain Marryat was at the time in command of the ship of war Beaver, which was employed on the St. Helena station until a death of Napoleon, and his opportunities for studying the characteristics of his distinguished charge were therefore exceptional.

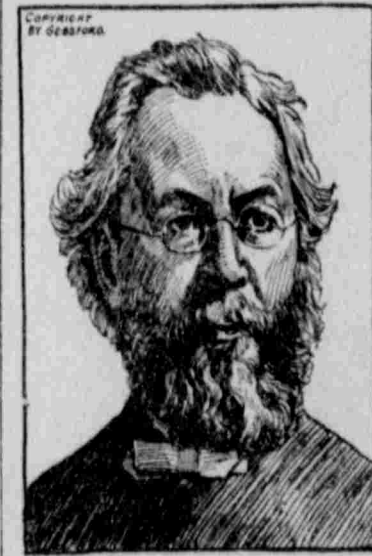
PRESENT HOME OF EX-PRESIDENT KRUGER.



The house shown in the illustration is one of the simple but solid residences of Mentone, in the Riviera. Here the "Bismarck of South Africa" is passing the declining years of his life. Indeed, it is feared that this really great old man, whose prediction that England would pay for the subjugation of the Boers a price that would stagger humanity has been rightfully fulfilled, has but a few months to live. Since he became literally a man without a country ex-President Kruger of the Transvaal has seemed to take no interest in life, and the death a few months ago of his beloved wife severed the last link which bound him in interest to this world. He is awaiting the end calmly, as he has awaited everything, good or bad, that has come to him.

WANTS AN IDEAL NEWSPAPER.

All that stands between Rev. Dr. Charles H. Parkhurst, the celebrated New York divine and reformer, and the establishment of an "ideal" newspaper is a matter of a few millions of dollars. Dr. Parkhurst has not yet quit the pulpit for the sanctuary; indeed, he has no intention of doing so. But he hopes nevertheless to see his hope realized—in



REV. DR. C. H. PARKHURST.

time. Dr. Parkhurst has not gone beyond generalities in telling what the ideal newspaper should be. If he should conclude to give his views in detail, they would certainly make interesting reading.

A MEMORIAL TO "THE FATHER OF ARBOR DAY."



If the friends of tree planting succeed, as now seems reasonably certain, in their commendable purpose, a handsome memorial will perpetuate the name of the late ex-Secretary of Agriculture J. Sterling Morton, "the father of Arbor day." About a year ago, shortly after the death of Mr. Morton, there was formed in Nebraska City the Arbor Day Memorial association, the sole object of which was the providing of a suitable memorial to Mr. Morton. Among the many designs the one submitted by Rudolph Evans, a well known sculptor of New York, was selected by the committee in charge. The illustration gives a very fair idea of the suggested memorial. The monument will be erected in Morton park, Nebraska City, and, aside from the brick which will be used for the platform, will be of granite and bronze. Subscriptions are still pouring in upon the committee at Nebraska City, whose desire it is to have the contributions as nearly as possible national in scope.