

The Arlington kite-farm being near Washington, is easy of access for the members of the Weather Bureau, who are at the head of the observatory system, so that the work of this station is being developed rapidly. Printed instructions and reports of the experiments and achievements throughout the country are sent from time to time to all the stations. The professors are deeply interested in the results of the study, but they realise that as yet comparatively little is known of the conditions of the upper atmosphere, and are confident that the researches being conducted by the Bureau will be productive of valuable results.

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NOTES.

New Kite Record.—Blue Hill, Aug. 26. —The world's record for high kite flight was broken this afternoon at Mr. Rotch's observatory by Messrs. Clayton and Fergusson, who dispatched a tandem of kites into the air until the highest one reached an altitude of 12,124 feet above the sea level, a height 360 feet greater than any kite has reached heretofore. The top kite was of the Lamson bird pattern, and had an area of 71 sq. ft. The other kites were the modified Hargrave box variety, and had a combined area of 149 sq. ft. All the kites were fitted with self-regulating, elastic bridles, invented at the observatory, to prevent the kites from exerting a dangerous pull. Five miles of line, weighing 75 lbs., was let out, while the weight of the kites, recording instrument, and secondary line, was 37 lbs., making a total of 112 lbs. lifted into the air. The recording instrument was made by Mr. Fergusson, of aluminium, weighing 3 lbs., and registering temperature pressure, humidity, and wind velocity. The ascent was begun about 11 a.m., and the highest point reached at 4.15 p.m. The kites were drawn in by a steam windlass, and the last one reached the ground before 9 p.m. The kites passed through clouds when about three-quarters of a mile above the surface of the earth, and while above the clouds the hygrometer showed the air to be very dry. At the highest point, the temperature was 38 degs., and the wind velocity 32 miles an hour. At the ground, at the same time, the temperature was 75, and the wind velocity 22 miles. The highest wind velocity recorded was 40 miles an hour at a height of 11,000 ft. The wind on the ground at this time was from the west, while at the highest point reached by the

kites it was W.S.W. The flight to-day was one of a series of high ascents made during the spring and summer, averaging about a mile and a half, while on several occasions, a height of over two miles has been attained.

An Aerial Ship.—Professor Giampietro, of the University of Pavia, has designed an aerial ship, consisting of an immense hollow cylinder of aluminium, like a cigar in shape, and rigged above like a three-masted sailing ship. There are also aeroplanes, or rather great wings, and aerial screws projecting from the sides. A car is hung underneath. The sails on the masts are for driving and steering the vessels, the side wings for rising and sinking without the use of ballast. The side screws are also for propulsion and steering.

Balloons in the Spanish-American War.—But few details have been published regarding the American War Balloon, which ascended near Santiago during the recent fighting. It is said to have afforded a most valuable means of reconnoitring, but it seems to have been shot down by the enemy's fire, a rather unexpected result considering that such an eventuality has hitherto been thought unlikely, and the Spanish shooting was not conspicuous at other times for its accuracy.

A Duchess as Aeronaut.—From Vienna we learn that the Duchess of Aosta, a daughter of the late Prince Jerome Napoleon, is an enthusiastic aeronaut, and considers ballooning the most suitable high society sport. The duchess is now staying at Arco, and has hired a balloon for a month, besides engaging two aeronauts to initiate her into the mysteries of ballooning. It is said that she makes an ascent every day, accompanied by her maid. She has ordered a balloon of her own, and at the expiration of the month intends to undertake some longer trips. Ballooning, she declares, is far superior to mere yachting, and must inevitably become the sport of the aristocracy.

Aeronautics at the British Association.—In addition to the paper on "Balloons for Geographical Research," which is reproduced elsewhere, the following papers bearing on the subject were read: — Mr. Eric Stuart Bruce, in a paper on "The Use of Electric Balloon Signalling in Arctic and Antarctic Expeditions," dealt with the system of electric balloon signalling, invented by himself, which has already been described. The apparatus consists of a balloon, made of a translucent material and filled with hydrogen or coal gas, in which are placed several in-