

THE
CODY



WAR
KITE.

Mr. S. F. Cody, F.R.M.S., the Inventor of the Man-lifting Kite.

The latest improvements in my apparatus were put to the test at Devonport, April 14th and 15th, 1904, and were highly commended for War purposes by Government Officials.

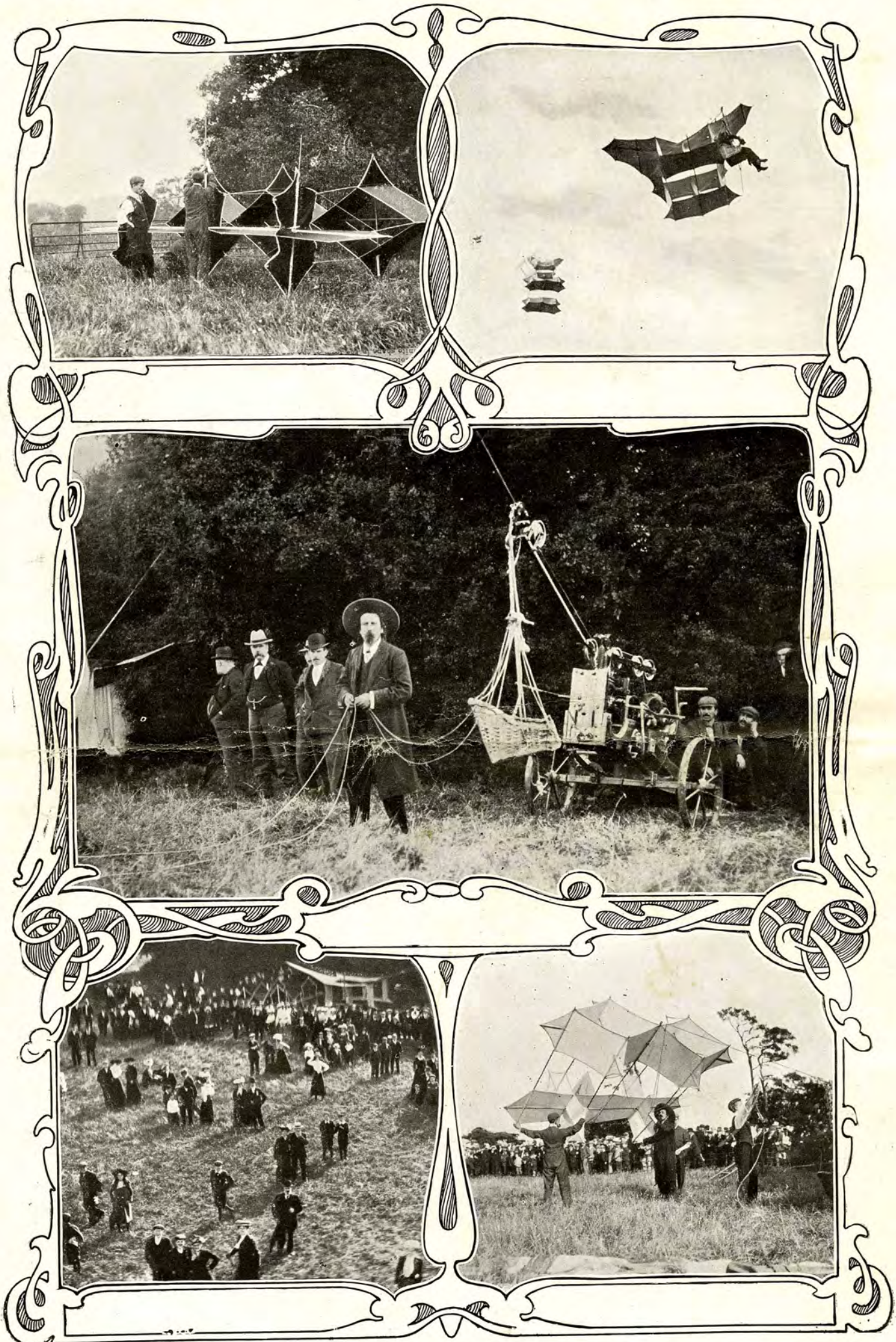
Kites for signalling purposes are constructed of black, white, and a combination of black and white silk.

Kites for reconnoitring purposes are constructed of a special silk which is practically invisible when flying high.

THIS PAMPHLET IS ILLUSTRATED BY EXTRACTS FROM LEADING LONDON PAPERS BY KIND PERMISSION OF THE VARIOUS EDITORS.

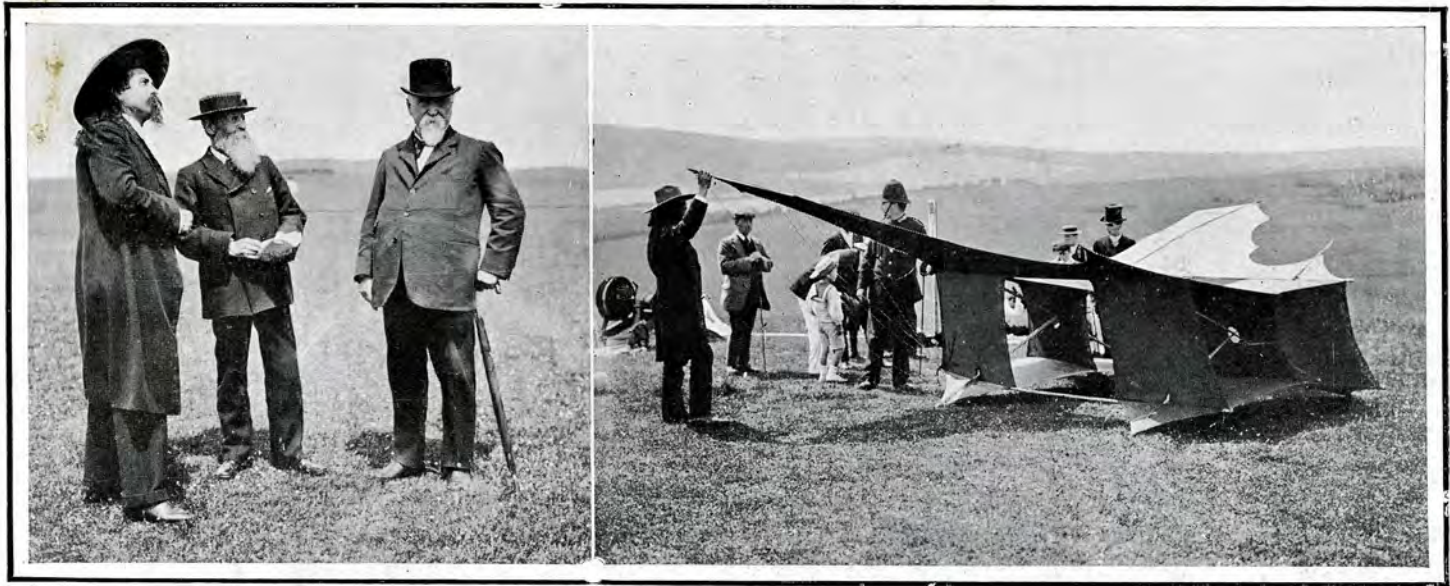
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The above snapshots were taken during my first public Man-lifting Display, and are the old style Kites such as used in my Portsmouth experiment last year.

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S. F. Cody, Rev. J. M. Bacon, and Sir Hiram Maxim.

Preparing for the Competition near Worthing.

No. 3.



A complete outfit of man-lifting War Kites packed up ready for travel. They would be invaluable in time of war, as only eight men would be needed to draw them, and no carts or apparatus would be required as in ballooning.

No. 4.



My first display before the British Admiralty representatives at Woolwich.

ALL my life I have been interested in kites, but only during the last three years have I constructed them for practical purposes. And already hundreds of successful ascents have been made, and I am very sanguine of more success in the future.

Having for some time past interested myself very deeply in the science of aeronautics; in fact, it was from thinking first of possibilities that I became so convinced of probabilities, and I determined to put my ideas into shape; and in this connection I have invented an aerial machine for which, although not perfect, I claim many useful attributes.

I do not wish to assert that I have produced a flying machine in the full sense of the term, but I must confess that I have ambitions in that direction; and I hope at no very distant date to play an important part in the complete conquest of the air.

My invention I have called the "Cody Aeroplane." One of the main objects aimed at in the construction of the aeroplane is utility for reconnoitring purposes (during any weather, day or night) in time of war, both on land and at sea.

In its present stage it has been proved quite practical in its uses as a carrier and support for wireless telegraphy apparatus, taking photographs at any given altitude, man-lifting, signalling, and many other uses which will be referred to later on.

During my recent experiments at sea it has been conclusively proved that my aeroplane will fly successfully with a vessel going full steam ahead with a beam gale; the same success in flying has been achieved on land with no more than a seven or eight mile breeze.

Then, again, I have experienced a wind of seventy-eight miles an hour, and perhaps the strength of such a force will be better understood and realised when I say that it is almost strong enough to uproot trees and carry away solidly-built frame houses. But, fortunately for this country, such frisky breezes are unknown, except at an altitude which can only be reached by our aerial ships, balloons, etc.

When I had succeeded in perfecting my invention, I determined to bring it at once before the Government, and try to interest its members in an invention which must of necessity, if only given a fair chance, prove itself a boon to any nation in the time of peace, and infinitely more so in war.



Mr. S. F. Cody's eldest son, 800 feet up in the air, supported by four of the great aeroplanes.

No. 6.

Photo by Campbell & Gray.



My Competition Kite.

I had been warned not to approach the Admiralty, as they were far too busily engaged to listen to an outsider without influence. I did certainly anticipate an amount of trouble in bringing my business before them; but, though I have dealt with many officials in various lands, I have never found men who answered more truly to the time-honoured 'grand old name of gentlemen' as these lords of the Admiralty and its lesser lights.

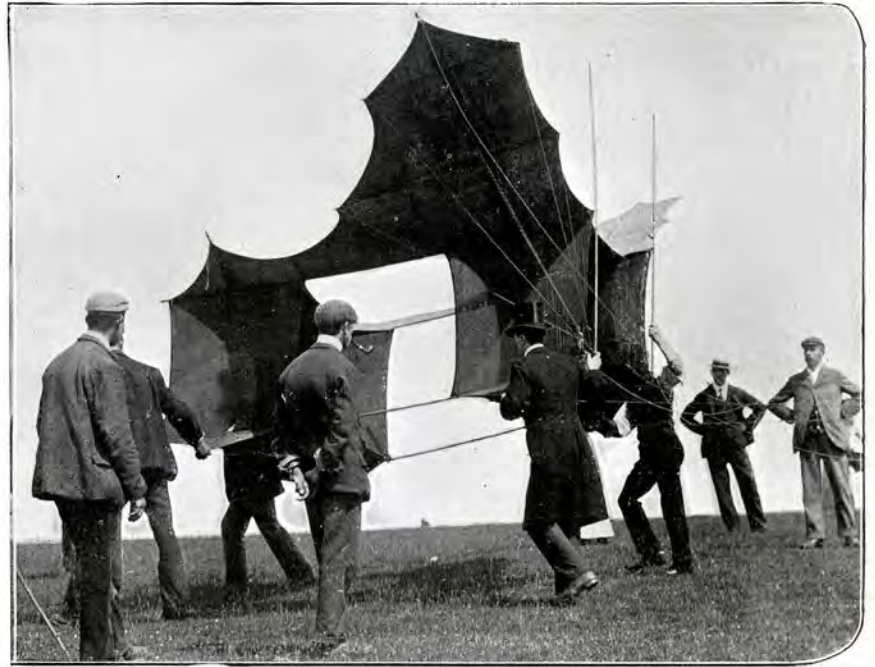
After some communication with them I was naturally pleased one morning to

receive a request from the lords of the Admiralty to proceed to Portsmouth, and there give practical demonstrations of the many uses to which my kite could be put to their representatives.

We travelled down on Sunday in a special carriage, with truck attached for necessary tackle and baggage, to enable us to be ready for an early start on Monday morning. After snatching an hasty meal, myself and manager visited Whale Island in order to request that the apparatus, tackle, etc., be placed in readiness on the lawn immediately outside the machine-gun battery.

On our arrival, at eight o'clock on Monday morning, we found everything in order, and a squad of six able-bodied seamen, under the direction of an officer and petty officer, waiting to render assistance, and with a view to being drilled later into our methods of utilising the aeroplane for the purpose of wireless telegraphy, but more particularly our process of signalling.

It was amusing to see the sailors when they were first called upon to assist in the manipulation of the kites. The way in which they handled the bamboo and silk, or linen material, reminded one of a scene on board a man-of-war, when work was being done with hundred-ton guns, etc. But they quickly slipped into the way of handling the various wires, gear, etc., and their aptness, willingness, usefulness, and



A Light-Weight Man-lifter.

No. 8.



A curious and interesting photograph, taken from one of the aeroplanes, of a crowd of people underneath.

No. 9.



Ready to fly.

trustworthiness speaks volumes for their training in brightness and alertness.

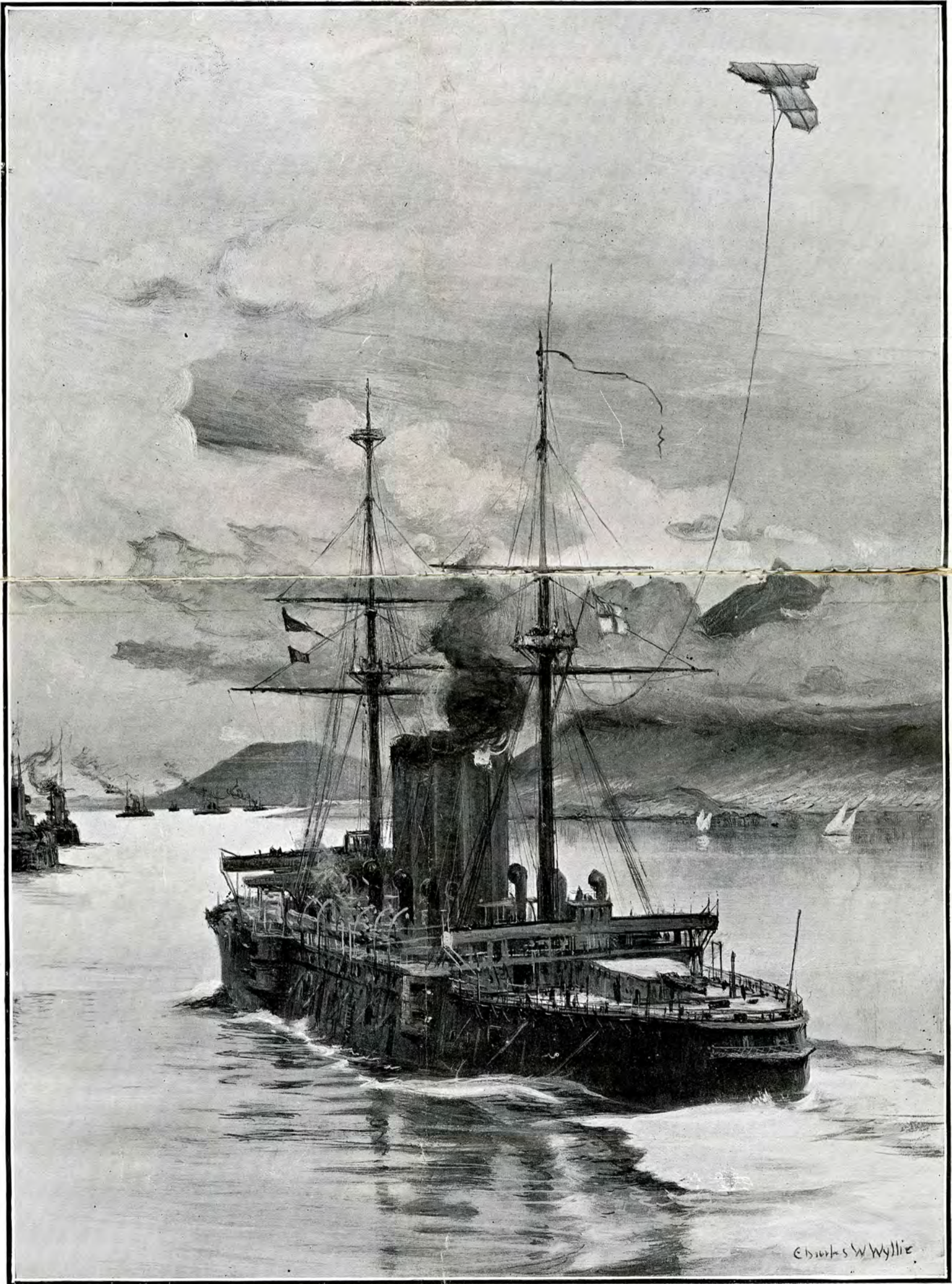
So interested did they become that even before the bugle sounded for the midday meal, some were eager to go aloft. Many officers, too, showed their confidence by volunteering to take a flight; even admirals expressing their willingness—before the week was finished—to ascend by a man-lifting aeroplane.

WAR KITES AT NAVAL MANŒUVRES.

"BACCHANTE" EQUIPPED.

No. 10.

Artist—Charles Wyllie.



One of the most interesting features of the manœuvres has been the trials which have been made with the aeroplane, or box kite, invented by Mr. Cody. The kite is made of a material like silk-alpaca which is stretched on a bamboo frame. Four ships were equipped with a set. One kite was sent up as a pilot and another took up an aerial wire which communicated with the wireless telegraph apparatus. The kite carried it up for about 300 ft. Messages were sent and received at a distance of 110

miles. As a rule messages cannot be despatched from even the largest men-of-war over a course of more than sixty or seventy miles, so that the use of the kite gave a considerable advantage. In a short time the wireless system will be installed on all large men-of-war. During the present manœuvres Vice-Admiral Sir Arthur Wilson used the new system of telegraphy for misleading ships of the enemy's fleet. The system is as yet in its infancy, but great things are expected of it.

An Ascent with my Special Scouting Outfit, controlled by Six Men.

No. II.



In comparing my apparatus with the captive balloon for Reconnoitring, I certainly do claim great advantages, especially for scouting purposes, for the following reasons: The complete weight of such an outfit is under 250 lbs., and when packed for transport, forms three neat parcels of about 80 lbs. each, which could be carried easily by six men, and the

observer could be sent to a height of about 500 ft. My No. 1 signalling outfit, for cavalry work, weighs under 15 lbs., the signal shapes measure 4 ft. across; the No. 2 weighs about 30 lbs., and the signal shapes measure 8 ft. across. These can be used without wind, and are not complicated in any one way.

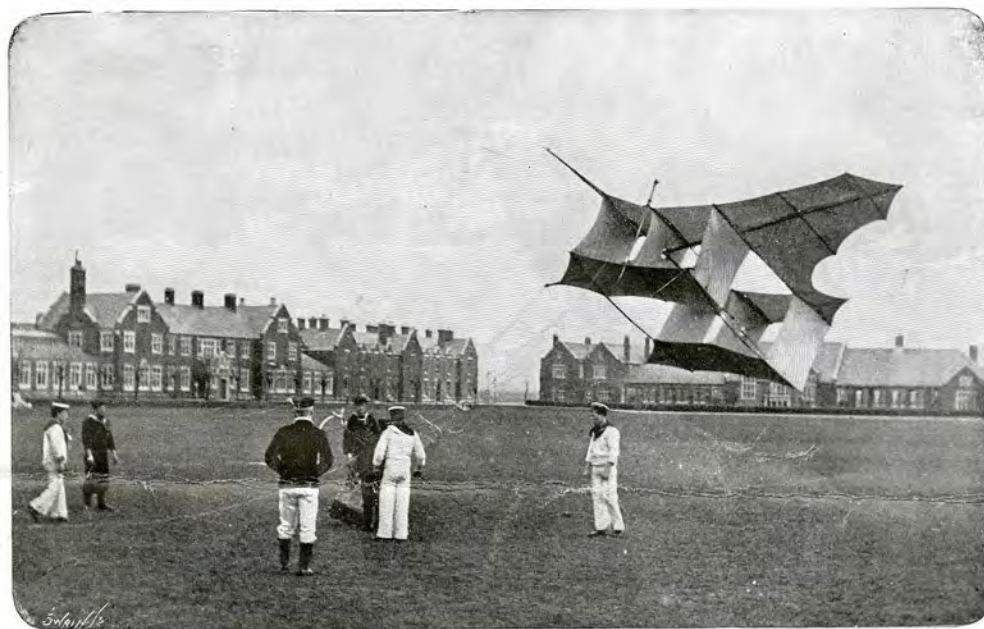
When an ascent is decided upon, a pilot is sent up, *i.e.*, one of the smaller grade of aeroplanes, and this is held captive by a small rope or wire, the latter being made fast to a galvanised wire cable. This aeroplane is allowed to carry the cable as high as it will. Then other airships, similar in construction to the first, but somewhat larger in size, are attached and sent floating up the main hawser, until they reach the particular destination assigned them, when they immediately take up flying positions, this process being repeated until a sufficient strain, or pull, is attained on the main cable, to bear the weight of the aeronaut, who ascends now to the desired point, from which to make his observations.



Controlling a high flyer.

He conducts these observations from a basket chair, the position of which is tilted back to an angle of about sixty degrees, so that the man's position is as if leaning back, thus rendering it practically impossible for him to slip, or be thrown out of the chair by passing currents. He has around him all the necessary steering-

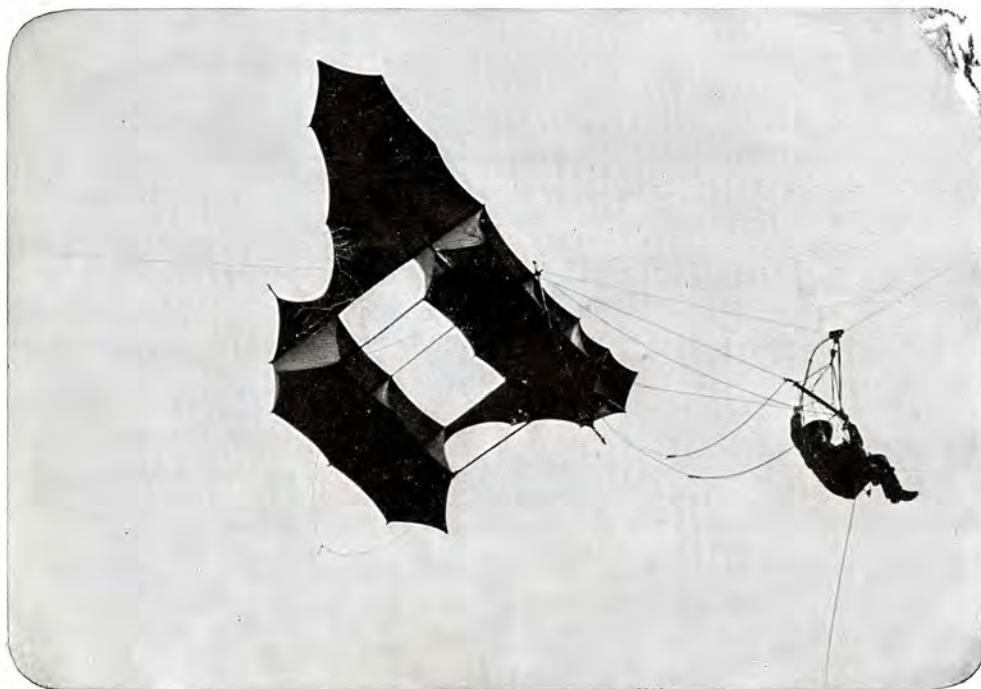
No. 13.



Starting one of the man-carrying aeroplanes from the ground at Portsmouth.

gear, together with ascending and descending lines, and brake for controlling the movements of the aeroplane during the upward and downward journey. These are attached to the crossbar, immediately in front and above the aeronaut's head. He has also with

No. 14.



Descending to H.M.S. Sea Horse.

him a camera, a telescope, and a quick-shooting small arm, and is in constant telephonic communication with the winch controller, whether on land or sea.

During my first day at Portsmouth, the kites were sent up in the manner already described. First, my second son took a short flight of from 150 to 200 feet, whilst up, taking several snapshots. He then descended, and I took his place in the chair, allowing myself to be carried up between 300 and 400 feet. After my descent, my eldest son took a turn, and ascended to a height of 800 feet, taking with him a camera.

When in the act of descending, he, wishful of having both hands free for the purpose of working the brake, in making a quick descent, placed the camera between his knees—coming down so quickly yet so lightly, that there was not nearly the shock that would have been experienced in jumping from a four-foot wall. This will be readily understood from the fact that the camera was not displaced from its position between his knees.

The apparatus can be put together, flight, ascent and descent completed, within the small space of one hour.

The height to which the man-lifting machine can be sent depends entirely on the length of the connecting line and cable, and when in use for the purpose of meteorological observations one of the aeroplanes has been sent up, carrying the observation instruments to a height of 14,000 feet.

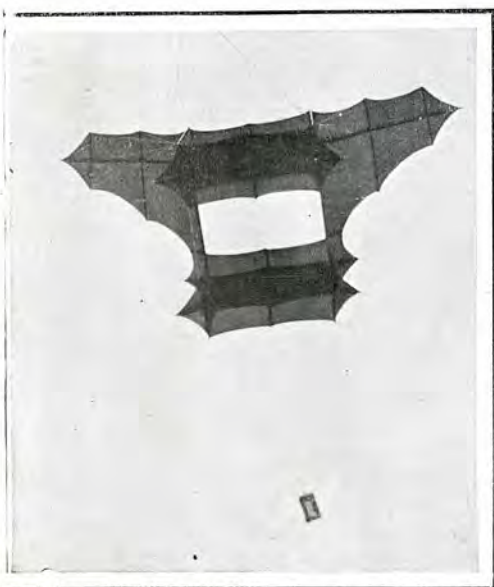
This actually took place at Newcastle. We have not been so far with human freight on board, our highest record being a flight of 1,600 feet.

During our visit to Portsmouth, His Majesty's ships *Excellent*, *Vernon*, *Starfish*, and *Sea Horse* were placed at our disposal for these experiments.

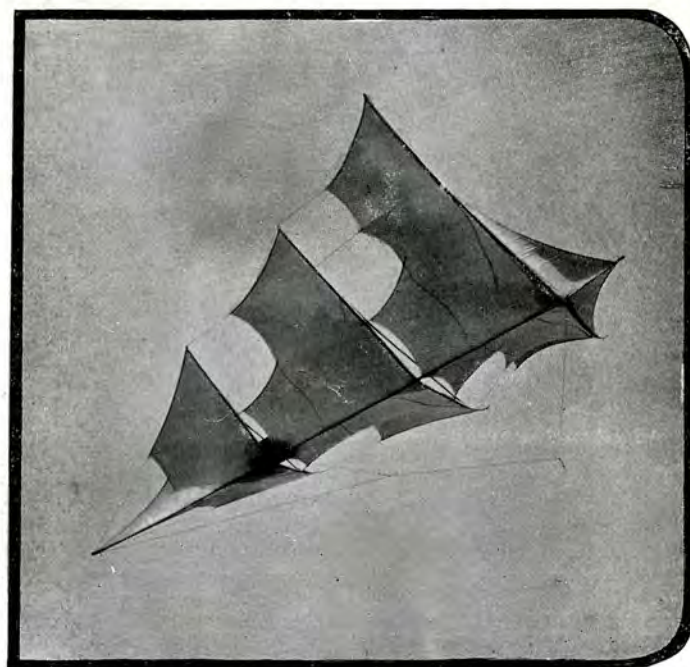
The first heavy weight-lifting demonstration, on board the *Sea Horse*, formed a most interesting feature of the programme.

A "pilot" was sent up, and the trial of steaming broadside on to the wind was carried out, with the result that the "pilot"

No. 17.

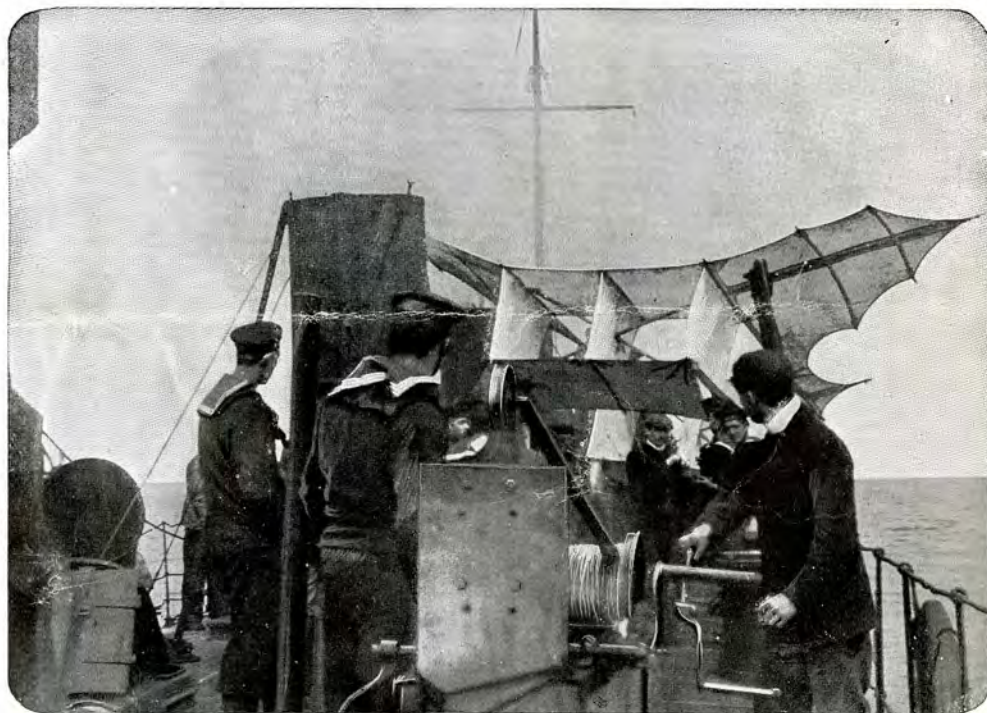


My Competition Kite soaring aloft.



My Brogdon Kite.

No. 16.



When Mr. Cody offered his wonderful invention to the Admiralty, they asked him to go down to Portsmouth to show what his Kites could do. Here a Kite is being sent up from a Destroyer.

flew, as well under these conditions as under any other. Then a No. 2 was attached in the usual way to the cable, and being launched, wended its way aloft gracefully to its

destination—then straightening its back, assisted to pull on the main hawser. Then No. 3 was sent up in the same way, its evolutions being similar. As this was to be only half a flight for man-lifting purposes, but two lifting kites were sent up in place of the four, and sometimes five, used for a complete flight. Finally the carrier was attached, and to it a huge log of wood, weighing 136lb., which was chosen for its burden in place of the officer, who, under other circumstances, would ascend for reconnoitring purposes.

The aeroplane carried the log used to a height of from 300 to 400 feet, at a very acute angle; but as there was

no one aboard the carrier kite to work the steering-gear, a captive line was attached to the basket-chair, and with this line the log was repeatedly drawn down to the ship and allowed to rise again.

This having been accomplished with every satisfaction, I then took my seat in the chair, and allowed myself to rise a sufficient distance from the ship to prove the possibility of the apparatus carrying a man with safety, and this whilst steaming ahead against the wind, or broadside on.

Thousands of spectators witnessed the return of the *Sea Horse*, with its strange mechanical bird bringing up the rear.

One of the most important uses to which the aeroplane can be put is that of aiding the new, and all important, wireless telegraphy. The machine can, by taking the apparatus higher than it could possibly be conveyed by any other means, add so considerably to its range, even to the extent of hundreds of miles, as to be invaluable in the service of this latest triumph of science. I think I may fairly claim for my invention that I have made by far the highest ascent known to man without the aid of balloon.

Although my object is eventually to make a flying machine, at present I work it as a captive aeroplane, that is to say, it is always under control by someone on land, if the operations are being carried out there; or if at sea, the controlling apparatus is worked from the deck of a vessel or a submarine boat.

Besides its practical utility in the event of war, the aeroplane has proved useful for the purpose of towing boats up rapid currents where steam or sail would be useless, and also for scaling high walls without the aid of ladders or trestle-work.

Then for Arctic Exploration the invention possesses special advantages, as it is capable of drawing a sledge, heavily



So easy is the controlling or steering apparatus that Madame Cody makes frequent ascents.

laden, with only one man requisite to work the steering-gear.

Of course, the movements of the aeroplane are, to an extent, controlled by the direction of the air currents; but, in towing objects below, it is not at all necessary for the steerer to go continuously with the wind; that is to say, he can tack to the right or to the left just as well as a ship can in the water.

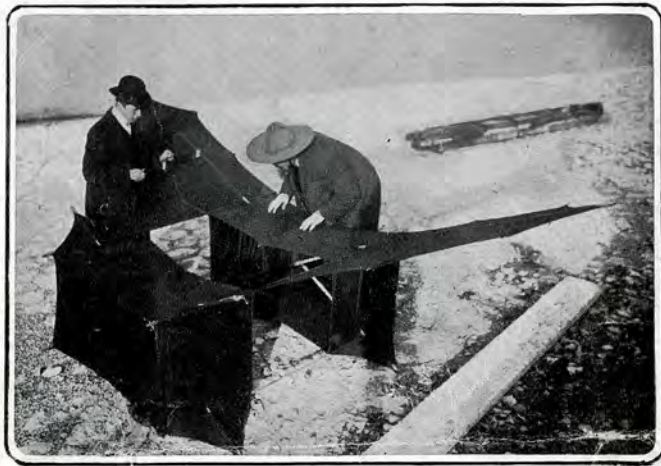
Another use to which the aeroplane could be put would be that of changing dispatches from one ship to another, when such an operation might be required, during the prevalence of heavy seas.

The aeroplane, which has been so severely and successfully tried by the Admiralty, is a species of kite, bat-shaped. Other shapes I have previously tried, but found them unsatisfactory for my purpose, their chief drawback being their unsteadiness in heavy winds. In the bat-shaped kite this obstacle has been successfully overcome.

I have several sizes and grades of aeroplanes. The smaller ones are employed mainly for signalling purposes, and the larger for carrying heavy weights into the air. The cross-stays supporting the silk material in the smaller aeroplanes are formed of bamboo, while in the larger ones they are constructed chiefly of American hickory, this wood being exceptionally strong and very durable. Steel tubing, of the type used in the construction of bicycles, I sometimes use instead of hickory, and in some instances aluminium plays an important part in the construction of the stays.

No gas is used in the working of the aeroplane. As a matter of fact, it is manipulated in the same way as an ordinary kite, but, as will be readily understood, on a far

No. 19.

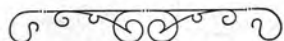


Getting ready for my cross channel trip by Kite Boat.

more elaborate scale. For instance, highly-tempered music wires or flexible steel cables take the place of the ordinary twine or rope.

I hear my reader exclaim: "Then this is not a new idea?" Certainly not. There is nothing new under the sun—that was settled long ago. It is so far removed from being new that it is a very ancient idea, resurrected and assisted materially by modern improvements.

The first record we have of the use of kites dates as far back as 206 B.C., when they were utilised for military signalling purposes during war by Han Sing, a Chinese general, and, according to history, they proved very useful at this epoch.



From "DAILY EXPRESS," London.]

TALKING FROM A KITE.

TELEPHONE MESSAGES TO EARTH FROM MID-AIR.

To receive a telephone call while suspended at an altitude of 1,600 ft. seems at first blush a little uncanny. It is, however, only one of the wonders which are likely to become commonplace in the near future.

Mr. S. F. Cody, who yesterday conducted some most successful kite-flying experiments at the Alexandra Park, showed how it could be done.

Taking advantage of a steady fifteen-miles-an-hour north-east breeze, Mr. Cody essayed to break his record ascent of 1,200 ft. by kite. This he successfully accomplished. He ascended to the full length of the cable, 2,000 ft., the pilot kite being 1,000 ft. higher still. The man-carriers were suspended at an angle of 52 degs., which, worked out, gives a direct height of just under 1,600 ft.

Mr. Cody has had constructed a telephone apparatus similar to those used by workers of the National Telephone Company. This hangs from his shoulders, and as he goes up he pays out a coil 1,700 ft. long. The end is attached to an apparatus on the earth, and so Mr. Cody sits 1,600 ft. high, conversing in a matter-of-fact way with his sons, who are on solid earth.

Mr. Cody, on coming down, described the panorama presented to his view.

No. 20.



The Berthon canvas boat, in which I crossed the English Channel from Calais to Dover, towed by my Kite.