

Aerial Navigation a Fact-- Von Zeppelin's Ship Flies.

The second trial of Count Zeppelin's colossal airship is described in press reports from Friedrichshafen as being a notable success. After rising to a height of about two thousand feet, the vessel remained poised at that level for three-quarters of an hour. It then made a series of tacks, and went through certain turning maneuvers, after which it descended to the water in what is described as "a generally circular direction" for about six miles, the velocity of the wind at this time being about eight miles an hour. It is said that later, in a freshening breeze, the air ship turned and "made head way" against the wind. Eventually the vessel descended with "great ease and steadiness to the lake," and was towed to its shelter. The stability and steering powers of the airship are described as being excellent.

If the above reports are correct, we still know as little about the actual practical value of Count Zeppelin's machines as we did before. It has been proved merely that an airship of this kind can ascend, maintain its equilibrium, and be navigated in any desired direction, provided the wind does not much exceed the strength of a gentle breeze. It has yet to be shown that in stronger winds, say, from twenty to fifty miles an hour, this airship can perform the same evolutions. If it should show that it is



COUNT VON ZEPPELIN.

able to maintain a speed of, say, only twenty miles an hour against a strong wind, aerial navigation by the balloon type of airship will have an enormous stride in these closing days of the century. Enough has been accomplished to render the further trials of Count Zeppelin's costly and carefully thought-out design a matter of world-wide interest.

The idea upon which Count Von Zeppelin's success, so far attained, appears to be based, is that the envelope or outer portion of the balloon should be of such material as to hold the contained gas for as long a period as possible. The difficulty has not been the making of gas in great quantities nor the buoyant power of large volumes suitably contained, but its retention in the envelope or receiver. Acting upon this idea, the Count has produced a material which would hold the hydrogen, the buoyant element being the lightest substance known, for five weeks without appreciable loss.

The cigar-shaped envelope has a capacity of 11,000 cubic metres of this gas (one metre equal to 39.37 inches). The exterior of the balloon is covered with a protective surface of pegamoid and silk. The total weight of the ship and crew is estimated not to exceed 20,000 pounds. The ship when completed resembles a huge cigar, made chiefly of aluminium. It is 415 feet long, and the cylinder proper is forty feet in diameter. The total depth, including the gondolas in which the passengers sit, is about eighty feet. The framework of this huge cylinder consists of aluminium bands, twenty-four in number. The interior of the cigar is divided by sixteen vertical ribs into seventeen compartments, each of which contains an independent balloon, made of a material which the manufacturer calls "ballonin." The first ascent was to have

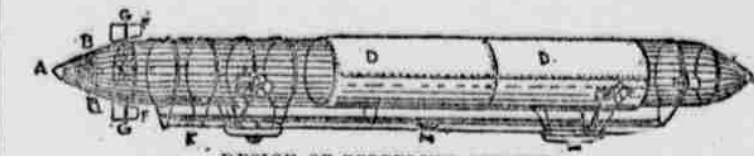
started. I had steered the airship around and was heading directly for this pontoon, when, in coming down somewhat from the elevation we had been floating at, the gas began to escape from one of the balloons.

"This threw the point of the airship much lower than I was prepared for, and our descent became too rapid."

"I threw out some ballast and worked the rudder that changes the air ship's plane and direction, but it was of no use. The machine had too great an impetus, and the descent was unavoidable."

Opinion in general is somewhat unsettled.

Of course, the decisive trial has not yet been made, for the machine is still in the experimental stage, though an undoubted step toward the achievement of aerial flight has been made. How characteristic of this fighting age it is that the moment it seems likely that the upper air has been made accessible to mankind the first questions asked are: How can we get



DESIGN OF ZEPPELIN'S AIRSHIP.

A A Aluminium points; length, from A to A, 415 feet.
B B A ring with spokes similar to those of a bicycle wheel.
C C Compartments or balloons.
D D Portions of the outer covering.

E E Propellers.
F F Foremost rudders, turning on axle G G.
H Gondolas of aluminium plates, rigidly attached to the cigar.
J J Motors.

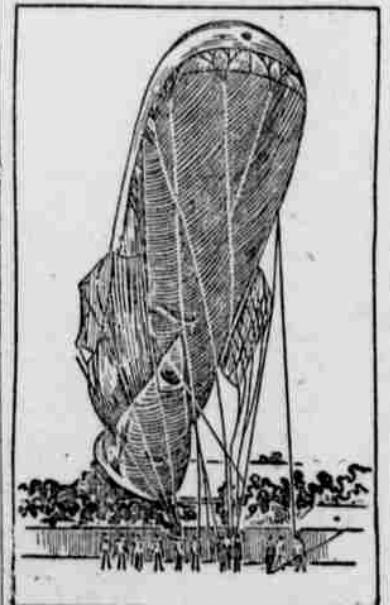
in motion against the air in order to see whether they would drive the boat forwards and backwards in spite of the extra resistance of the water. This experiment was eminently successful, the boat being driven in either direction at the rate of nearly ten miles an hour.

The cost of the device to Count Zeppelin before the first flight was something like \$100,000. Even one charge of hydrogen gas for the balloon costs in the neighborhood of \$2500. The Count is now a man of seventy, and lives at the castle of Ebersberg, near Constance, on the German side.

He served in the German army during the French war and it is said that no small part of his inspiration in ballooning was derived from his experience as a scout on a dangerous trip during that war, and by the desire to see better methods of obtaining information. It is believed that a balloon which can be directed at will—can maintain its equilibrium and descent together without danger to the life of occupants or to the structure—has been last attained.

Count von Zeppelin is satisfied with the performance of his airship. In a conversation with a New York Herald correspondent he said it had been proved that it was absolutely under the control of the steering apparatus.

This apparatus, by the way, was not



THE AIRSHIP BEGINNING ITS FLIGHT.

in most perfect order on the first ascent.

One of the two rudders below the machine, at the stern, would not work freely. Thus, instead of moving parallel with each other, the rudders frequently formed an angle.

This defect hampered Count von Zeppelin very much indeed.

It is to this fault that he attributes the general movement noticed in the trial toward the left, for at no time did the machine make a decided flight to the right.

The Count also remarked that his de-

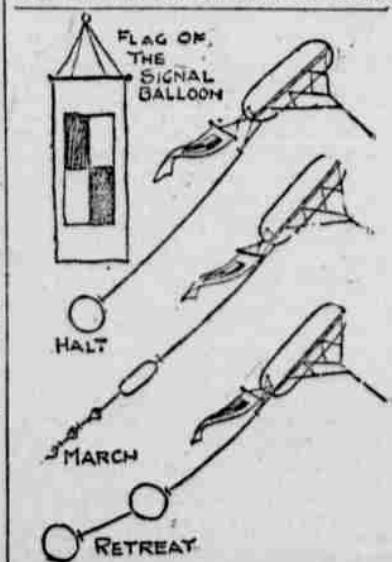
up there and fight? Shall we be able to drop dynamite and lyddite from the skies upon the ships and cities of our enemies?

Zeppelin has without doubt filled France with new hopes and England with new fears. An invasion of Britain by airships appears as a distinct possibility. The battle of Dorking may be fought in the clouds, and "perfidious Albion" may cease to "rule the waves" by reason of her failure to rule the atmosphere. On the other hand, a second successful siege of Paris may be made impossible by the airship's aid in bringing new supplies of food to its defenders.

The Modern Scientist.

In the olden times, said Professor Rhys in a recent address before the British Association, a scientist, after once printing his views on a given subject, stuck to them through thick and thin, or, at most, limited himself to changing the place of a comma or replacing an occasional and by a but. "In this way not a few great questions affecting no inconsiderable portions of the universe had been forever set at rest," and a large portion of the remainder of the scientist's life was frequently devoted to defending his theories. "All that has been changed and what now happens is somewhat as follows: A B makes an experiment or propounds what he calls a working hypothesis; but no sooner has A B done so than C D, who is engaged in the same sort of research, proceeds to improve on A B. This, instead of impelling A B to rush after C D with all kinds of epithets and insinuations that his character is deficient in all the ordinary virtues of man, only makes him go to work again and see whether he cannot improve on C D's results, and most likely he succeeds, for one discovery leads to another. It is a severe discipline, in which all display of feeling is considered bad form. Of course every now and then a spirit of the ruder kind discards the rules of the game and attracts attention by having fits of bad temper. But generally speaking, the rivalry goes on quietly enough to the verge of monotony, with the net result that the stock of knowledge is increased."

Kite and Balloon. A feature of the recent German maneuvers was the use of the signal balloon for the transmission of orders.



SIGNAL BALLOON USED AT THE RECENT GERMAN MANEUVERS.

The device is shown herewith. It has the feature of the balloon and the kite, and, it is said, can be sent up or brought in for the changing of the signals in quick order.

Heroes and Biographers.

She—"Tell you the truth, Alfred, I do not believe in heroes."

He—"That's funny. If you had said you didn't believe the people who write their biographies, I should have thought nothing of it."—Boston Transcript.

Trying to Fool the Bachelors.

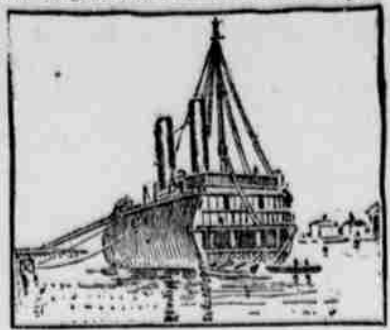
When there is a party all of the married men get together and so they can fool the old bachelors and pretend how jolly they are.—New York Press.

The young woman who proposes marriage is only trying to make a name for herself.

A POWERFUL ICE BREAKER.

A New-Nose Has Been Put on the Unique Russian Craft.

The ice-breaker Ermack, which was built last year by Messrs. Armstrong, Whitworth & Co., from the designs of Admiral Makaroff, for the Russian navy, was recently returned to Newcastle, in order that the hull might be lengthened, and the form of her



THE BOWLESS ICE BREAKER.

bow altered. The vessel has, therefore, been cut in two, as much of the bow being removed as possible without placing the boat in dry dock. The second stage in the operations has just been reached, and the launching of the new bow successfully carried out. The new bow is of such a shape that, un-



LAUNCHING THE NEW BOW FOR THE ERMACK.

aided, the structure would have been unable to maintain an upright position, and therefore a large steel pontoon was built, and securely riveted to the sides of the bow. Ballast was carefully placed, to prevent any tendency of the bow to tip during the



THE NEW BOW OF THE ERMACK IN THE WATER.

launching, and special precautions in the way of shoring and timbering were carried out. The curious-looking structure went into the water without the slightest difficulty, and floated within an inch of the calculated draught. The length of the new bow is seventy-five feet, and the launching weight was nearly 500 tons.

AN HONORED SCOTSMAN.

Donald Gordon, the Queen's New Highland Attendant.

The London Graphic says: Constable Donald Gordon, of Motherwell, has just been appointed to the post of Highland Attendant to the Queen. Gordon was summoned before Her Majesty, at Balmoral, on Thursday last, and receiving the appointment left Motherwell to take up his duties. He is twenty-eight years of age, and has been connected with the Lanarkshire Constabulary in Motherwell for the past four years. It may be mentioned that



DONALD GORDON.

Gordon has previously been in the service of the Queen, having been for a considerable time mounted messenger to Her Majesty. His father has also been for a long period in the Queen's private service. Gordon's fellow constables presented him before leaving with a dressing case and other articles as a token of their esteem.

New Implement For Soldiers.

An implement to be added to the soldier's kit, which can be used as a spade, pick-axe or saw and also as a shield for protection from bullets, has been invented by the Earl of Wemyss. It is said that the contrivance is to be adopted by the British army.



THE EDICTS OF FASHION.

New York City.—The comfort and convenience of the basque that can be worn with or without an additional wrap requires no urging. The admira-

ble May Manton model here illustrated includes all the latest features, and is well adapted to all the season's cloths, chevots and the like; but as shown is of camel's hair zibeline in a deep warm tan.



TIGHT FITTING BASQUE.

The fronts are curved to give a graceful rounded figure and are fitted with single darts. The backs include side-backs and under-arm gores, and can be trusted to give the desired

shoulders it is cut out to show a deep yoke and collar of taffeta silk, light blue in color. This is bordered with black velvet, and it continues down to the belt. The sleeve terminates in a cuff, with two bands of black velvet on it.

What Little Girls Wear.

Little girls wear a great deal of serge when they discard wash frocks as the season advances. There is little change in the style of making up such a gown. The old-time sailor collar blouse with its shield divides custom with the serge suit which has plain jackets and skirt. This last requires a shirt waist. These are the usual models for school suits.

Flooned White Petticoats.

French women have always been very partial to white petticoats, trimmed with much flouncing and many yards of lace, and once more they are becoming fashionable, and are ousting the silk ones from the popularity they have so long enjoyed.

A Favorite Fur.

Black fox showing a few white hairs is reported as one of the favorite furs for coats.

Child's Apron.

The apron that is attractive at the same time that it protects the gown is a necessity to every well dressed little girl. The pretty May Manton model here shown is essentially useful at the same time that it is dainty and smart, and includes the bolero suggestion that is a feature of the season and so becoming to childish figures. As



PRINCESS GOWN.

tapering effect to the figure. The neck is finished with a regulation turn-over collar that forms notches with the fronts, which roll back to form lapels in coat style. The sleeves are two-seamed, finished only with stitching at cuff depth. The basque is closed at the front with small tailor buttons and buttonholes.

To cut this basque for a woman of medium size four and one-eighth yards of material twenty-one inches wide, two yards forty-four inches wide, or one and five-eighths yards fifty inches wide, will be required.

Ladies' Princess Gown.

No other gown takes the place of the well fitted princess that becomes simple or elaborate as the material is simple or costly. The admirable May Manton model illustrated in the large engraving is of cashmere in the new rich red known as dahlia, with trimming of black applique and small buttons, but Henrietta in any color, French flannel, challie and a host of other materials can be substituted.

The fronts are fitted with single darts, hidden beneath the trimming, but curve to give a graceful outline. The back includes both side-backs and under-arm gores that fit to a nicety without being over-tight. Below the waist line is an inverted pleat that allows of additional fullness in the skirt and adds greatly to the stylish effect. The sleeves are two-seamed in correct style, the lower edges being lengthened, faced and turned back to form slightly flaring cuffs. At the neck is a high collar with turn-over portions attached.

To cut this gown for a woman of medium size nine and a half yards of material, twenty-one inches wide, six and a half yards twenty-seven inches wide, or four and three-quarter yards forty-four inches wide, will be required.

For a Girl of Twelve.

A school girl wears a frock of Scotch tartan in dark green and deep blue and black. It is made up on the straight, not on the hem, where a scanty flounce is set on like a "cut skirt." A band of black velvet covers the join. The bodice buttons up the back. In front it is bloused considerably. About the

shown, the material is nainsook, with trimming of beading, through which ribbon is run, the arm-eyes being finished with sleeve frills of needlework, but dimity, lawn and all the range of familiar wash stuffs are equally appropriate.

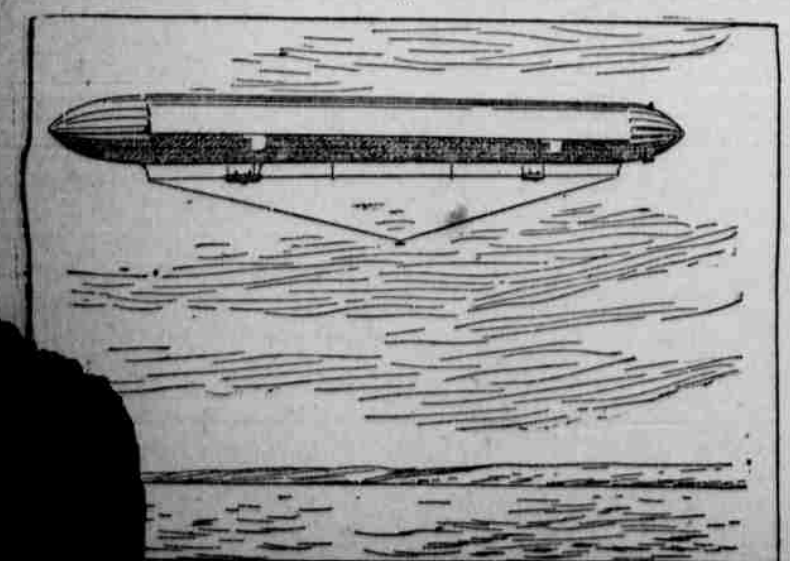
The apron is shaped with front and back portions and is fitted by means of shoulder and under arm seams. At the upper edge are laid tiny tucks, which give the bolero effect and below which the fulness falls in soft folds to the hem of the skirt. The trimming is applied over the upper edge and the base of the tucks. The apron is closed at the back with buttons and buttonholes. At the lower edge is a deep hem that can be hemstitched or simply trimmed, as preferred. At the arm-eyes, forming an epaulette-like finish, are graduated frills that are wider at the shoulder and narrow beneath the arms.

To cut this apron for a girl of six years of age two and a quarter yards of material thirty-six inches wide will be required, with two yards of head-



CHILD'S APRON.

ing, one and five-eighths yard of needlework four inches wide, and three and a half yards of velvet ribbon to trim as illustrated.



THE AIRSHIP AT FULL SPEED.

October, 1890, but the vessel did not all the round the first ascent did until July 2, 1900, when

ascent happened earlier than he intended. "My aim," he said, "was to return to the floating pontoon whence we