## **PROGRESS WITH THE** FLYING MACHINE.

Working Out the Man-Flight Problem Along Scientific Lines Near Chicago.

pled with the invisible forces of the atmosphere, sometimes blindly, but always courageously; generally to meet with disappointment, but happily with enough success to keep alive his determination to master the most difficult of all problems in physics. Lives have been lost and fortunes have been expended in the pursuit of this baffling question of man-flight. Ridiculations of the base of the sought to a central frame. It had a total weighed thirty-seven pounds.

By a process of evolution this paratus became the machine the present the present the present the present the present the machine the present the present the present the machine the present the center of air pressure, it was constructed with a view to bringing the center of pressure over the center of gravity by the aid of wings moved automatically. This machine had twelve wings, each six feet long and three feet wide, and each pivoted in the present structure. It had a total weighed thirty-seven pounds.

By a process of evolution this paratus became the machine the center of pressure over the center of gravity by the aid of wings moved automatically. This machine the center of gravity by the aid of wings and three feet wide, and each pivoted in the velve wings, each six feet long and three feet wide, and each pivoted in the velve wings, each six feet long and three feet wide, and each pivoted in the velve wings, each six feet long and three feet wide, and each pivoted in the velve wings, each six feet long and three feet wide, and each pivoted in the velve wings, each six feet long and three feet wide, and each pivoted in the velve wings, each six feet long and three feet wide, and each pivoted in the velve wings. who sought to cope with the feathered messengers of the air, and their sanity questioned by the world at large.

The advancement made toward the full solution of the problem of manfight during the year 1896 was greater than that of any previous year, and attracted the widest attention among scientists. Probably more interest centered in the experiments conducted thirty miles southeast of Chicago on the shore of Lake Michigan by Octave Channte, of Chicago, than anywhere else. The prominent position occu-pied by Mr. Chanute in the scientific world was accepted as a guarantee that he had faith in his experiments, and that he had no other purpose in view but to demonstrate certain principles involved in the problem.

At the time he was thus engaged Mr. Chanute observed much caution in his utterances concerning the results obtained. Fearful lest his conclusions might not be properly formed, or that he might be misunderstood, he re-frained as far as possible from commit-ing himself on the subject further than to say his experiments were very satisfactory. Since then he has gained courage, so to speak, and has become enthusiastic over what has been ac-complished. He is now confident that the way is clear for the solution of the problem, and modestly takes to him-self a goodly share of the credit for pointing the way. He claims that his experiments have marked out the best lines for investigators to follow, and numbers them as follows in the order of their importance:

1. The development of the self-pro-pelled aerodrome.

2. The development of the motorless air sailer.
3. The development of the motor.

During the past week the experiments of last year have been renewed near Dune Park, Ind., and Mr. Channte has been almost a daily visitor to the scene of action. His interest in the result will not let him stay away longer than one day for sev-eral reasons. One reason is that the machine being used is one of his own invention in its most important details, and another is that the experiments are following the second line of inrestigation, which he laid down as necessary for the solution of the problem of man-flight. It is said that Mr. Chanute is the real one who is ted with

Otto Lilienthal, of Berlin, brought out in 1894 and in the use of which he met his death last year. It might well be termed a flying machine, and yet this description does not fit accurately. It swer that the machine does fly, never-

markable results have been obtained. surfaces either impels it forward or Experiments showed many defects in retards its motion. Sometimes a the machine, and it was rebuilt on a strong gust of wind comes along when different principle. The twelve wings least expected and suddenly raises the were discarded, and in their stead machine higher than the starting point, were substituted three superimposed. But for the automatic rudder this

were indescribably thrilling and delightful.

All the flights begin from an eminence, the numerous sand hills near
Dune Park offering all the opportunities desired for starting. Another requisite is that the operator must start
facing the wind, although with proficiency good results may be obtained
with the machine traveling at an angle
with the wind. Those who have seen
a buzzard or most any other large bird
begin a flight from the surface of the
earth will have noticed that the bird
invariably faces the wind and runs a
few steps before rising. For the same
reasons the operator of the Chanute
flying machine must face the wind, flying machine must face the wind, holding the machine over his head, then run a few steps down the side of

were indescribably thrilling and de-

give a jump outward into space as though he never expected to come down. He will be doing nothing more, in effect, than he did when he jumped from the top of a fence in boyhood days with an umbrella over his head. The wind rushing against the lower sides of the two surfaces of varnished silk holds the operator suspended, while the angle at which he holds the

the hill on which he stands and finally

A GOOD START.

with an aggregate surface of nineteen quare feet. Attached to the rear of this machine was a combined horizon-tal and vertical rudder, designed by trials of the machine. In the course of the experiments it was found necessary to remove the lower surface, and

this left the present machine.

The several changes therefore reduced the sustaining surface of the machine from 177 square feet to 135 square feet. The weight was lowered at the same time from thirty-seven pounds to twenty-three pounds. This general reduction did not impair the strength of the machine, while at the same time it improved its efficiency to a remarkable degree. Repeated trials showed the machine capable of sustaining an aggregate weight of 178 pounds, this figure representing the combined weight of the operator and the resolution. The frame is a like the resolution of the operator and the resoluti the machine. The frame is constructed of spruce wood, braced with fine piano wire, and the concave sur-faces are formed by varnished silk stretched over the frame to the highest tension.

will answer this question by replying that was never intended to fly. He will inform those asking the question that the machine is made for experimental purposes solely, with the end in view of developing the motorless air sailer. At the same time, Mr. conducting the experiments, but this he denies in favor of A. M. Herring, a may lead to a solution of the most important part of the problem of manmaintenance of the Mr. Chanute last year in his extensive rium of the machine under all circumstances. He holds that this problem must be solved first. It has been ring is now experimenting daily repre-eents the ideas of both himself and Mr. Chanute. It belongs to the same class as the machine which the late

concave surfaces, each sixteen feet might prove disastrous to the operator long and four feet three inches wide, He would, in all likelihood, turn a He would, in all likelihood, turn a back somersault with the machine and get badly hurt. Again, a plast of air from above might strike on the top of the machine and cause it to shoot down-Mr. Herring as a result of his frequent ward at a terrific rate of speed. This trials of the machine. In the course is what happened to Lilienthal last year, and was the cause of the accident which resulted in his death.

The line of flight of the machine in the hands of such a skillful operator as Mr. Herring may be controlled very largely. He has demonstrated time and again his ability to steer the machine in broad curves by simply shift-ing the weight of his body from one side to another. Last Monday he succeeded in describing a compound curve during a flight of about 300 feet, and landed with his back almost com-

Flights have been made in all sorts of winds, the speed of which varied from ten to twenty-one miles an hour. The latter wind is higher in its speed will this machine fly? Mr. Chanute tried in before and tested the steadi-



ALBATROSS WHICH FAILED.

ness of the machine most thoroughly. The speed at which the machine travels The speed at which the machine travels rests very largely with the operator and depends upon the angle of descent from the starting point. When he finds that he is approaching the ground too swiftly it is only necessary for him to tilt the front of the machine upward, when its speed will be immediately checked, and alanding can be made in safety. The range of flight is also very largely within the control of the operator, one who is skillful being able to alight within ten feet of any spot indicated while the wind maintains an even rate of speed. The longest flight recorded is the one made this year by Mr. Herring, which was almost 900 feet. Another flight of 600 feet was made last week.

Long flights are not the aim of the men who are conducting the experi-ments with the gliding machine. They are seeking to arrive at intelligent conclusions concerning the problem of automatic stability more than anything else, and it is claimed by Mr. Chanute that many new facts have been discovered bearing upon this question. In anticipation of an early solution of the question Mr. Herring is hard at work on a motor which he hopes to be able to apply to the gliding machine. An evidence of the faith that is within him s shown by the fact that he predicts that an air ship will be constructed within another year which will fly to New York with but four stops on the way to replenish the stock of fuel.— Chicago Times-Herald.

Rewarded For Finding a Feather.

The Gazette of Moscow says that while the King of Siam was passing through the streets of that city a white feather fell from the plume of his helmet, and was picked up by the peasant Toukianow, who is in the service of M. Koch. Toukianow hastened to restore the feather to the chief of police.

In spite of the fact that much bright color has been and continues to be worn, writes May Manton, white is al-ways given first choice for our tots'



The charming little coat shown illustration is made of heavyweight drap-d'ete in a softy, creamy tone and is lined throughout with silk

WORN BY LITTLE ONES,

SEASONABLE AND STYLISH GARMENTS FOR CHILDREN.

Coat" Made of Heavy-Weight Material
For Fall and Winter Wear—A Suit For
a Little Girl That is Simple and Yet
Stylish—Boy's Russian Blouse Costume
In spite of the fact that much bright
color has been and continues to be
worn, writes May Manton, white is always given first choice for our total

shirrings that run from the shoulders 'to a point at the front and form a simulated yoke. The sleeves are in Bishop shape and one-seamed, but narrow. At the shoulders the fulness is
simply gathered, but the writes show
any any gathering, which like that at the
neck, shows narrow black velvet ribbon over each stitching. With it is
worn a deep collar and cuffs of narrow
batiste which also makes the frill at
the left side of the blouse. The
material for the frock is a mixed plaid
in gay coloring showing a line of ecru in gay coloring showing a line of eeru with which the soft tone of the batiste

stitching.

To make this frock for a girl of eight years will require three and three-fourths yards of forty-four-inch ma-

This stylish little suit is designed for small boys from two to four years. As represented it is made of serge in a deep shade of cardinal with white deep shade of cardinal with white serge for the collar and cuffs. Narrow braid enters into the decoration, and a jounty little Tam o'Shanter cap ac-companies the costume. A high-necked and sleeveless under-waist that is shaped with shoulder and under-arm seams and closing in the back, sup-ports the kilt skirt that is deeply hearmed and laid in plaits. The blouse ports the kilt skirt that is deeply hemmed and laid in plaits. The blouse is simply adjusted by shoulder and under-arm seams. A casing is sewed at the waist line through which an elas-tic or tape is inserted to arrange the fulness which droops in the regulation blouse fashion. To the edge of the left-front a wide box-plait is applied through which button-holes are worked to effect a closing, buttons being sewed

The skirt is perfection.

The skirt is perfectly straight, the fulness being arranged in tuck shirrings, which, like those of the bodice, show black velvet ribbon over each

Boy's Russian Blouse Costume,



GIRL'S DRESS THAT IS SIMPLE AND YET STYLISH.

of the same shade. For early fall to the edge of the left-front. The wear it is sufficiently warm without interlining, but for genuine cold weather a layer of wadding between the cloth and the lining is essential. The short, snug body is fitted by shoulder and under-arm seams and opens at the left side where the closing is effected by handsome pearl buttons and but-ton-holes. The skirt, which includes underlying plaits at the centre-back, is joined to the body, the lining being neatly hemmed over to conceal the The sleeves are in Bishop

seam. The sleeves are in Bishop style but narrow, having only one seam. The fulness is gathered at the shoulders and again at the wrist, where they are finished with pointed cuffs edged with a frill of ribbon and trimmed with a simple braid. The deep circular cape that falls in ribbon effect has a seam at centra-back and effect has a seam at centre-back and oth it and the turnover collar are fin-ished with braid and ribbon frills as are the cuffs. With the coat is worn a cap of soft silk.

To make this coat for a child of four years will require two yards of forty-four-inch material.

Dress For a Little Girl.

Nothing suits extreme youth so well as does simplicity, and the model shown in the large illustration, according to May Manton, has the merit of being absolutely simple while it is stylish at the same time. The bodice stylish at the same time. The bodice takes the popular blouse form, but is made over a plain fitted lining which ensures perfect neatness and the necessary warmth. The lining shows the usual number of pieces and seams, closing at the centre-front, but the blouse has shoulder and under-arm seams only and laps well over the left side where it closes invisibly and is finished by a frill. The back is quite plain, but the front shows gauged cept

neck is completed by a wide sailor col-lar the lower edge of which is shaped in rounded outline.

The sleeves are one-seamed and are gathered at the top and at the bottom where they are laid in plaits that are stitched to position. Flannel, serge, and all manner of light-weight cloths are commendable for making, while



## KEYSTONE STATE NEWS CONDENSED

PRISONERS ESCAPE.

Five Men Leave Crawford County Jail by Prying Open the Windows.

Five prisoners escaped from the Crawford county jall a few nights ago vy prying open the grating from in front of a window. The five who escaped are: Jack McDermott, awaiting removal to the Allegheny county workhouse; Brock McCarthy, awaiting trial on a charge of attempted housebreaking; C. Campbell, serving sentence for illegal liquor selling; James Murphy, serving sentence for theft and Henry Brown, colored, serving sentence for theft. None of them have been captured.

The following Pennsylvania pensions have been granted: Sebastian Crags, Adah; Charles Mats, Oil City; Henry B. Harris, Pittsburg; Edward Beebee, Ashville; Joseph B. Cline, Carnegie; Charles P. Reynolds, Kersey; Craner Clendennen, Tarentum; John S. Fleming, Indiana; minor of John F. Tarr, Oil City; Leran A. Hodge, Wilawana; Jacob Stonerock, Curryville; Nathaniel Graham, Pittsburg; Theodore Shannon, Boston; William Y. Tamgart, West Alexandria: David B. Timmins, Roxbury; Joseph Woomer, Oilvia; Thomas Troutner, Worthington; Thomas M. Carroll, McKeesport; Benjamin P. Hilliard, Clarion; Robert S. Miller, Big Run; Joseph Kantner, Johnstown; Emily J. Jackson, Everett; Sadie Carroll, McKeesport; Sophia S. Carnochran, Towanda; Sarah R. Taggart, West Alexandria; Isabella Shannan, Hoston; George Harbaugh, Allenbenny; Adam Heist, Irvona, Samuel McClain, Elizabeth; John Kelly, Saltsburg; William H. Bishop, Rankin; Peter Hartz, Carsegie; John Duffay, Petrolia; William Heist, Irvona, Samuel McClain, Elizabeth; John Kelly, Saltsburg; William Heist, Irvona, Samuel McClain, Elizabeth; John Kelly, Saltsburg; William Heist, Irvon; Henry Shaffer, Mt. Union; Mary E. Gary, Time; Hannah Kepler, Venango; Eliza A. Craig, Sonora; Christian Kerr, Allegheny; David L. Davis, Pittsburg; Bernard Doughert; James Urey, Clearfield; Joseph B. Steiner, Pittsburg; Bernard Doughers, Marion Center; George Zimmerman. Weston; Jacob F. Roop, Pittsburg; Samuel Craig (dead), Redman's Mills; James L. Price, Altoona; Thomas Clanbough, Reynoldsville; Lewis E. Long, Lemont; James M., Lorimer, New Brighton; George W. Dixon, Mt. Oliver; John Flowers, Scenery Hill; Franklin Geesey, Penn Run; Jacob G. Dress, Altoona; James Taylor, Tipston; Josse N. Atwell, Sugar Hill; John Steckman, Hyndman; Susan Chester, Carrick, Engineer E. Bennett Mitchell was killed and fireman John R. Cawley seriously injured Monday morning, by the explosion of a locomotive on the mountain adjet, which rises at an angle of 60 degrees from the track. The trucks where thrown into the rivet and

Miss Nancy Keister, aged 23 years, who resided with her uncle, Robert Gregory near Franklin, has been missing since last Saturady. Mr. Gregory found a note in the family Bible to-day which read as follows: "The best day which read as follows: "The best of friends must part. I leave the hill forever, where I shall land I do not know. Nancy." Miss Keister was beautiful and had many admirers. She inherited \$2,000 when she became of age.

of age.

The retail fruit store of Dughi Bros., at Altoona, was gutted by fire at an early hour last Thursday morning. The loss will reach \$1,500. The flames eat their way into the stock room of the "Gazette," where several thousand dollars worth of stock was destroyed. The business office and editorial rooms were damaged by water. The loss to the "Gazette" will reach fully \$5,000, covered by insurance.

Farmer Volum Bull who was re-

fully \$5,000, covered by insurance.

Farmer Volney Bull, who was recently robbed and tortured and bound by oath, who gave his tormentors \$500 to save himself and son from being burned with their barns, fled to Erie the other day to be shut up in jail. The robbers sent him a letter demanding that he pay the money or die. A reward has been offered for the apprehension of the rest. hension of the men.

Calvin Klingensmith, of New Kens-

Calvin Klingensmith, of New Kensington drove over to Tarentum to make some calls. He started home shortly after midnight and was drowned while trying to ford the river opposite Natrona. The body was recovered. His dead horse and the buggy were found in the Allegheny river near Braeburn.

While Ed. McClelland was standing in front of D. H. Shiplet's grocery store at Claysville, the other day, he, for a joke, took a peach from a basket and put it in a companions pdcket. Shiplet has McClelland arrested for stealing the peach, and at the hearing he was fined \$5 and costs.

Two children of Adam Wilson of

Two children of Adam Wilson of Pardee, near Phillipsburg, were so bad-ly burned by the breaking of a lamp a few days ago that one has died and the other is not expected to recover.

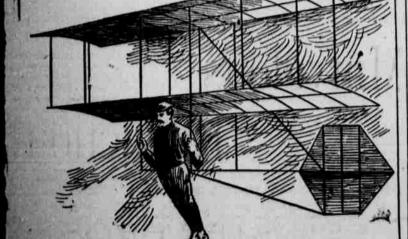
Reports received at Reading state that Rev. W. E. Hoy, a Reformed church missionary at Sendai, Japan, was held up and robbed of \$5,600, partly building and partly mission funds.

Mrs. Joseph R. Miller, of Gap, was thrown out of a wagon the other day. Her skull was fractured and collar bone broken. She was 25 years old and leaves a husband and four children.

The \$10,000 organ donated to St. John's R. C. church, at Johnstown, by Andrew Carnegie, has arived, and workmen will at once begin its erection in the new church.

T. C. Barr, of Pittsburg, 24 years old, fell from a freight train at Williamsport, and had both legs crushed so badly that they had to be amputated.

James Barton, aged 70, was burned to death at Athens a few days ago. The fire destroyed Charles Fitzgerald's stable and six horses.



PROFESSOR CHANUTE'S LATEST FLYING MACHINE.

ing machine. Better still, it called an air coaster, for in

heless, after witnessing a day's ex periments among the sand dunes. The distinction between sailing and gliddistinction between sailing and gliding and processes of those machines known lar coasters. The resemblance ied still further in the application of those machines known lar coasters. The resemblance ied still further in the application of three sailing machines end by Mr. Chanute, including a senough to tackle the machine himself and succeeded in getting the right and succeeded in getting the right king and a massive gold chain decorated with a sparatus. Instead the machine flew. He would also be willing to testify that his sensations while the flight lasted the machine has not yet recovered from this constitution to take of the principles evolved the machine flew. He would also be willing to testify that his sensations while the flight lasted