WHEN HARRIMAN MUST GET OFF THE EARTH

Same Day He Will Make His Old Freight Cars Into Skyboats or Go Out of the Carrying Business, According to Airship Fans.

By FREDERIC J. HASKIN.

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Washington, Oct. 14.—When the age of flight has perfected all things, may we not see a new kind of shipping rising skyward with perishable freight that must be quickly delivered, or with the products of some inland farm too remote from waterway and railway to otherwise market its goods? There was a great ripple of amusement in the east about a century ago when an enterprising engineer devised a new method of transportation in the Pennsylvania mountains. He had cut a canal westward, and the mountains were in his pathway, so he devised a railway from the eastern half of the canal over the mountains to the western half, fitted his canal-boats with wheels and prepared to lift them by a stationary engine on the mountain top until they slipped over the ridge to the valley and into the canal on the other side. This was before the days of railroads and locomotives, remember. As the railways came the next year, however, his unique transportation system was not put into use.

It is quite possible to turn the same idea to account when airships become freighters. The inland farmer might load his produce on barges lifted by an army of small balloons and towed by an airship to the nearest canal or big waterway, where by a system of air depression the barge could be lowered to the water barge and sent on the rest of its many thousand miles' journey at less expense, for the ship of the skies will not be without its expensive features for many years after its perfection.

What an Airship Costs Now.

The present cost of building an airship is about the selling price of a good touring automobile. An ordinary aeroplane, fitted with wheels on which it must run to gain rising force, and without machinery, will cost the present-day maker $1,000. A gasoline motor of 21-horsepower will cost $1,800, its installation $60, and the screw and its installation $100 more. These are the figures that an inventor has named as the cost of his own machine. The Wright brothers offered their aeroplane rights to the government for $25,000, Herring asked $20,000, and Scott is said to have asked $1,000. The government some years ago appropriated something like $50,000 for Professor Langley's experiments with heavier-than-air machines, and the money was not deemed thrown away, though the machine was not a success. Zeppelin's aluminum-bodied ship cost $125,000, his flexible airship $50,000.

If the conquest of the air is to be an established fact, the making of airships will become a national industry just as is the making of railway and streetcars, automobiles, ships, farm vehicles and bicycles. With the parts standardized, and factories turning them out with the rapidity with which they are now turning out other things, and with other factories to assemble the parts, the purchase price of an aerial runabout, or hansom, or barge, or interurban car, or seeing-the-city car would be materially decreased, and the new carrier placed within the reach of many.

The Comfort of Passengers.

By the time these factories have come into existence, many important points in airship construction will have to be solved. The question of warming the passengers and protecting them from the wind has not yet occupied the attention. To make the air warmer would require an additional weight—a thing to be avoided when every ounce will count. An aeronaut, who advertised 50 years ago that he would sail from New York to London, proposed to generate the heat for the car under his balloon by slaking lime. Others have followed with alcohol stoves. But these cannot be used on the aeroplane of the present day. To protect the passengers from the wind would call for a device that would offer too great resistance to the air.

Already lighter and more durable engines are being manufactured to meet the demands of airship makers. Pelterie has done away with the heavy flywheels on his engine to lessen the weight, and has seven cylinders, star-shaped, which exactly distribute the explosion. Santos Dumont's latest engine weighs only five pounds per horse-power, and the perfectly balanced working parts keep the ship free from vibration. Small petrol engines weighing only two and a half pounds per horse-power are on the market. Air-cooled engines have superseded water-cooled, as they dispense with gearing and pumps and so lessen the weight. Man-power alone will be of little use in propelling the airship of the future, for a man continuously exerts only one tenth horse-power, and can support and drive only 20 pounds through the air. According to the late Professor Langley, the greatest weight that can be sustained by a one horse-power aeroplane is 209 pounds.

The Smuggler of the Future.

To the smuggler the airship presents great possibilities. Suppose he has one that will carry only two people besides the crew. He could travel over the sea himself and bring back rare laces and jewelry in packages that would not exceed the bulk and weight of a man, and then take his chances with the revenue cutter service of the skies. Here it is possible that invention will retain the balance that has always been kept. As fast as smuggling vessels are built and put into use, just so fast will a watchful government build swift revenue cutters with vigilant officers on board, just so fast will it set captive balloons armed with searchlights and rapid-fire guns along the coast lines. Smuggling will be no easier then than now, but it will have a bigger sense of risk and of danger that will make it more worth while to the coming free-booters of the skies.

It is freight of a priceless character that the merchant of the future will risk in airships. They will be used to bring over special orders of jewels, silks and laces for billionaire patrons, hurry-up orders for gowns from the Paquins of the future, rare plants for decorating the homes of those to whom cost is no consideration.

Aerial Navigator's Risk.

The element of risk will be no greater in the age of flight than it has been in the age of steam. Even with the seas charted by mariners for 20 centuries of world commerce, there are treacherous winds and waves that still endanger shipping and destroy many millions of dollars every year. The men of the future who will chart the skies and note the winds and currents and dangerous eddies will perhaps be no better than the chartmakers of the seas. The men who guide the airships may be as keen eyed, as vigilant and learned in weather lore as the men who guide the ships at sea, and yet disaster may come to the one as easily as to the other. Lifeboats, life preservers, systems of distress signals, and superior construction of craft that will not allow a ship of air to sink any more quickly than a ship at sea, must all be features of the coming aerial craft.

The big union railway station in Washington is the biggest thing of its kind in the world. All the officers and men of the United States army can be massed in the great concourse. Into its sheds rumble hundreds of passenger cars every day, and it is a matter of general curiosity to the tourist to see just how much ground space is required for the accommodation of traveling folk. Freight yards in big shipping centers cover miles of ground and hundreds of miles of track are required for the accommodation of cars when temporarily idle.

If the present airships are true patterns of what the successful ones of the future will be, what type of union passenger and freight stations will be built to meet their needs? Farman's machine requires over 1,000 square feet of ground to rest on, the garage for the aeroplanes at Fort Myer looks like a country town hotel. The shed that housed La Patrie was big enough to hold a small cotton factory, and when Knabenshue's dirigible balloon hovered once over the capitol grounds in Washington, there was grave consideration as to whether there was enough clear space in front of the building for it to alight on, if it so chose.

Architects of the coming era will have busy times devising shelters, stations and factories big enough to hold the monster ships of the skies. Wood will be too scarce for such uses, steel and reenforced concrete will lead in construction materials. Perhaps the housetops of the future will be the garages for the family machines. Then will disappear the privacy that for centuries has pertained to the housetop of the eastern potentate, for over him will fly the argosies of commercial nations, and his neighbor's housetop will hum with the machinery of the new craft, or resound with the flip-flap of big wings gaining momentum for some cross-continent flight.

The effect on trade in certain articles will be a result of this great manufacturing industry of the future. Rubber plays an important part in the manufacture of cloth for balloons of the type of La Patrie and the one made by Wellman. The rubber cloth of Lebaudy's model is made in Germany, and as soon as there was a prospect of the United States government ordering balloons of this type for its war department, a German firm monopolized the rubber industry so far as that branch of manufacture was concerned. Considering the size of the average war balloon, and the amount of goods, cotton or silk, necessary for its making, the effect on certain industries is worth considering.

Dangers to Freighters.

Certain dangers from their own kind will lie in the path of the future aerial freighters, for as a protection of their grain crops from hail the Belgians have recently tried a new invention—a hail cloud destroyer that may some day have to be legislated out of the skies. These destroyers are pear shaped balloons, each carrying 500 grammes of high explosives to which a slow match has been attached. They are sent into the air and exploded into the hail clouds to disperse them. While these new inventions protect the commodities that make commerce, they will endanger the very commerce they are seeking to protect. They will be considered, in coming days, as so many obstructions in the path of the aviator, as dangerous as a steel rail or a bit of dynamite on the track ahead of the Twentieth Century Limited.

Meet at the Electric Fountain in the Perkins Grill and get some of their justly celebrated Shell Oyster Specialties.

Notable Weddings.

(Special Dispatch to The Journal.)

Providence, R. I., Oct. 14.—One of the most notable weddings seen in Providence in several years took place today, when Miss Louise Lippitt, daughter of Mr. and Mrs. Henry F. Lippitt, became the bride of George Rosengarten Sinnickson of Philadelphia. The bride's family is one of the wealthiest in Rhode Island. Five hundred guests, including many prominent persons from out of town, witnessed the marriage ceremony.

Shelbyville, Ill., Oct. 14.—A wedding of note here today was that of Miss Mary Frances Headon of this city and Dr. Edwin Lyon Draper, son of Dr. Andrew S. Draper, state commissioner of education of New York. The ceremony was performed in the First Baptist church and was followed by a large reception at the home of the bride's parents.

Brotherhood of St. Andrew.

(Special Dispatch to The Journal.)

Milwaukee, Wis., Oct. 14.—Prominent clergymen and delegates from every section of America are in this city to attend the twenty-third annual convention of the brotherhood of St. Andrew of the Protestant Episcopal church. The convention has its formal opening today and the sessions will continue through the remainder of the week. Seven bishops are included among the announced speakers. They are Williams of Nebraska, Woodcock of Kentucky, Anderson of Chicago, Weller of Fond du Lac, Webb of Milwaukee, Rowe of Alaska and Brent of the Philippines. A new feature of the convention program will be noonday mass meetings for the public, the purpose of which is to aid in leaving the impress of the convention upon the city.

Brooklyn Art Institute.

(Special Dispatch to The Journal.)

New York, Oct. 14.—Arrangements have been concluded for interesting ceremonies tomorrow to mark the opening of the new Brooklyn Institute of arts and sciences. President Eliot of Harvard and other notable speakers will be heard.

CENTENARY OF FAMED COLLEGE

Catholic Dignitaries Celebrate Founding of the Cradle of Bishops.

(Special Dispatch to The Journal.)

Emmittsburg, Md., Oct. 14.—A score of church dignitaries and hundreds of Catholic laity throughout the country gathered here today to participate in a two days' celebration of the centenary of Mount St. Mary's college, America's most historic Roman Catholic higher institution of learning. The town, as well as the college, is in gala attire in honor of the occasion, and during the two days of the celebration there will be a succession of banquets, speeches, musical and dramatic performances by the students, and other features of interest.

The celebration was formally opened today with a pontifical mass of thanksgiving. The sermon was delivered by the Rev. Dr. Cunningham of Pittsburg, who graduated from Mount St. Mary's in the class of '78. Among the eminent prelates in attendance at the mass were Cardinal Gibbons of Baltimore and Archbishop Falconio, the apostolic delegate at Washington. Tomorrow night the celebration will conclude with a banquet at which Richard M. Reilly of Lancaster, Pa., will deliver the oration, and the Rev. Patrick L. Duffy of Charleston, S. C., will recite an ode composed for the occasion.

Mount St. Mary's is justly entitled to the honors now being paid her. The college is known as the "cradle of bishops" from the fact that so many of America's bishops have been students here. Among the noted prelates who studied here were Cardinal McCloskey, America's first cardinal; Bishop Boute, the "guardian angel of the mount"; Archbishop John Hughes of New York, who toiled as a gardener during his first year to pay his tuition; Archbishop Purcell and Bishops Laughlin, Elder, Chatard, Gilmon, Watterson and Spalding.

Those of the laity who later brought luster to the name of the college include Attorney-General Bonaparte, Justice White of the Supreme court; George Miles, the poet, and General Thomas Anderson, the first American commander at Manila.

Mount St. Mary's is the pioneer secular college. Since the establishment of the college there have occupied its presidential chair many clergymen, who, like its founder, Father John Dubois, later rose to high places of honor in the church.

ARMY OF CUMBERLAND AT CHATTANOOGA

(Special Dispatch to The Journal.)

Chattanooga, Tenn., Oct. 14.—Within sight of Lookout Mountain, Mission Ridge, Orchard Knob and other theatres of bloody strife in which they took a leading part, the members of the Society of the Army of the Cumberland assembled in Chattanooga today for their annual reunion.

No more appropriate place for the reunion could have been selected. The capture of Missionary Ridge by the Army of the Cumberland without orders, was one of the most stupendous feats of the war. At Chickamauga the army was all but demoralized, and its recovery and subsequent victories have no parallel in history. After the winter that followed the battle of Chattanooga, the Army of the Cumberland, as a part of the military division of the Mississippi, under the command of Major-General W. T. Sherman, joined in the memorable campaign from Chattanooga to Atlanta, the "one hundred days under fire."

Only a small amount of routine business is to be transacted at the present reunion. After the annual reports have been received and officers elected the members will devote the time to a visit to the battlefields which were the scenes of the most stirring events of their lives.

D. A. R. of Iowa.

(Special Dispatch to The Journal.)

Fort Dodge, Iowa, Oct. 14.—A large and representative attendance marked the opening here today of the annual state convention of the Daughters of the American revolution. The sessions were held in the spacious auditorium of the Baptist church and were open to the public. "Modern Educational Ideas" was the subject of an address by Professor Searley of Cedar Falls. Child labor was discussed by Stephen Morris of the national committee on child labor. The business of the convention, including the annual election of officers, will be transacted tomorrow.

Celebration at Saragossa.

(Special Dispatch to The Journal.)

Madrid, Oct. 14.—A notable celebration of a historical character was begun at Saragossa today in commemoration of the anniversary of Spanish constitutional government. The celebration has been arranged by the university of Saragossa and the dominant feature is an international historical congress which will continue for one week. The attendance includes representatives of the governments and many institutions of learning in Europe and America.

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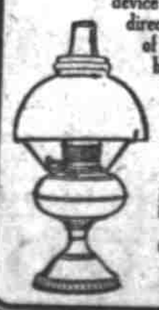

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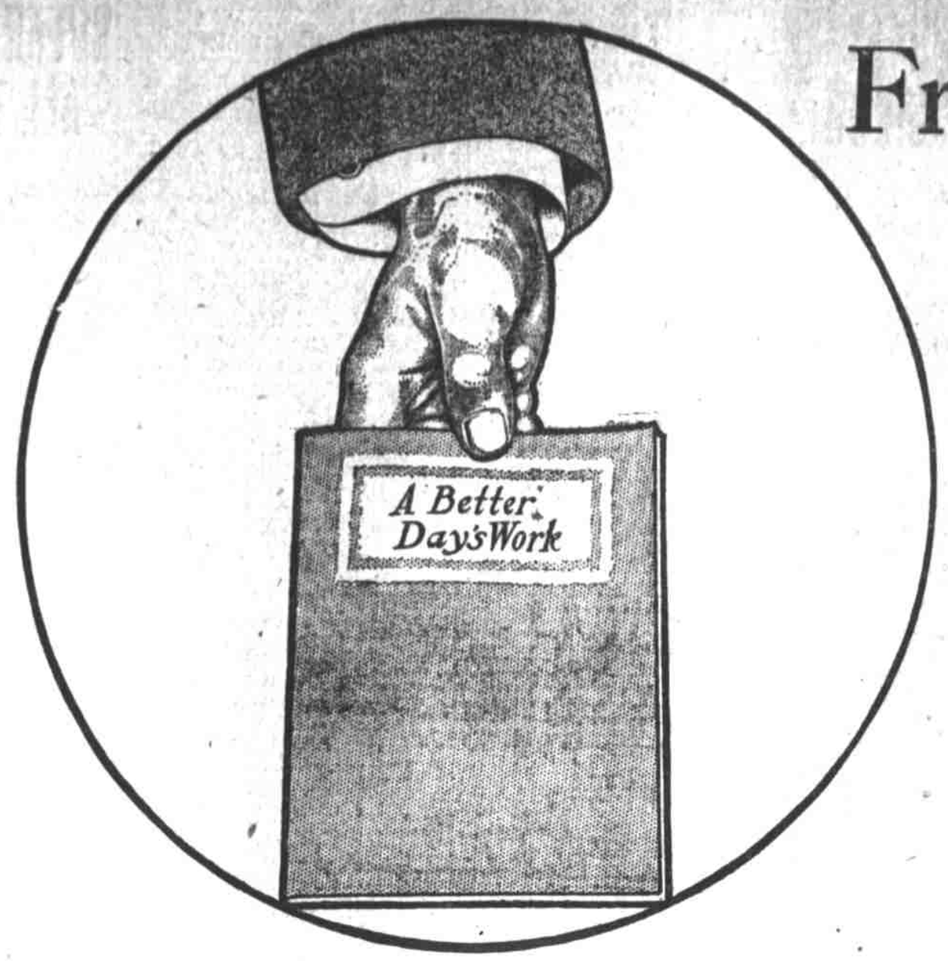

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Topics Discussed

How the Stone Age Man "Kept Books"
Beginnings of Mathematics and Commercial Bookkeeping
The Abacus and other calculating devices
Business Practice in Ancient Babylon
Origin of the "Carbon Copy"
Charles Babbage's "Difference Engine"
Birth of the Modern Adding Machine

Short Cut Suggestions:

Daily Cash Balances
Comparative Statements of Operating Expenses
Methods of Analyzing Outstanding Accounts
How a Trial Balance Can be Handled with Accuracy and Quickness
Recapitulation of Sales in a Retail and Wholesale Store
How to Handle Monthly Statements
Proving Your Daily Postings—a Prevention of Trial Balance Troubles
A Shorter and Better Way to Handle Cash Received
Checking Invoices by Machinery
Handling a Pay Roll with Quick Accuracy
Multiplication Cut in Half
Subtraction in Less Time
Time Saving Division Method
Handling Check Figures by Machinery
Getting Cost of Day Labor
Labor Costs by Jobs—A Shorter Way
Material Cost by Jobs
Finding Cost of Pieces
Cotton Invoices Made in one-third the Time
Saving Time in Adding and Listing Tons and Cwts.
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