

CONQUERING GRAVITY. ENGINEER AND INVENTOR TAKES QUEER LIBERTIES WITH NATURE

MECHANICAL MEANS TO SUPPRESS GRAVITATION MEETS RIGID TEST.

A FEW days ago a New York engineer and inventor, Edward S. Farrow, suspended a book from a pair of scales in his laboratory and weighed it. The volume tipped the scales at 15 ounces.

To the book he then attached a mechanical device in the shape of a small rectangular box, which he calls a "condensing dynamo," and applied power from a neighboring electric switch. As the current set the wheels in the dynamo whirling, the indicator of the scales slowly receded until it stood at 15 ounces. Apparently the book had lost three ounces of its weight. In other words, one-sixth of the power of gravitation between the book and the earth had been overcome. A law of nature had to all appearances been nullified.

The discovery of a mechanical means to suppress gravitation is, of course, of the first importance. It is revolutionary—even sensational—to be compared with the formation of the law of gravity itself, as Newton saw an apple fall from a tree and reasoned out the why and wherefore of it.

If all of Mr. Farrow's claims for his invention are borne out by future tests, he will stand as one of the great inventors and scientists of all time; he will have solved the most perplexing problem connected with aerial navigation—the suspension in air of an aeroplane after its engine, through accident or other means, has ceased to work.

That the claims of Mr. Farrow for his condensing dynamo are being given the most serious consideration is evidenced by the fact that United States Government engineers are now conducting experiments with a view to determining the value of the invention to the Army and Navy. The result of these experiments will be announced in a short time.

Mr. Farrow himself believes that by the use of his dynamo the air craft in warfare would be removed from the field of uncertainty and danger to positive safety and mechanical efficiency. If a war balloon, floating over a hostile camp, was becalmed at an altitude within range of the new aerial guns, the latter could make its destruction and the death of its occupants a practical certainty.

Owing to lack of wind, insufficient lift or depleted gas supply it could not be removed from its dangerous position. But with the condensing dynamo attached, it could be shot up beyond the range of the aerial guns and floated away to safety on upper air currents. An aeroplane that has suffered an accident to its engine or other parts could be sustained in the air and floated away in the same manner.

Mr. Farrow and his associate, General George O. Eaton, U. S. Army, retired, have filed their claims for a patent for their condensing dynamo, but the mechanical details of the contrivance will not be announced until the Government experts have completed their experiments. It may be stated, however, that the idea behind the invention is based on the intensification of Hertzian waves, which are used in the wireless telegraph. It has been



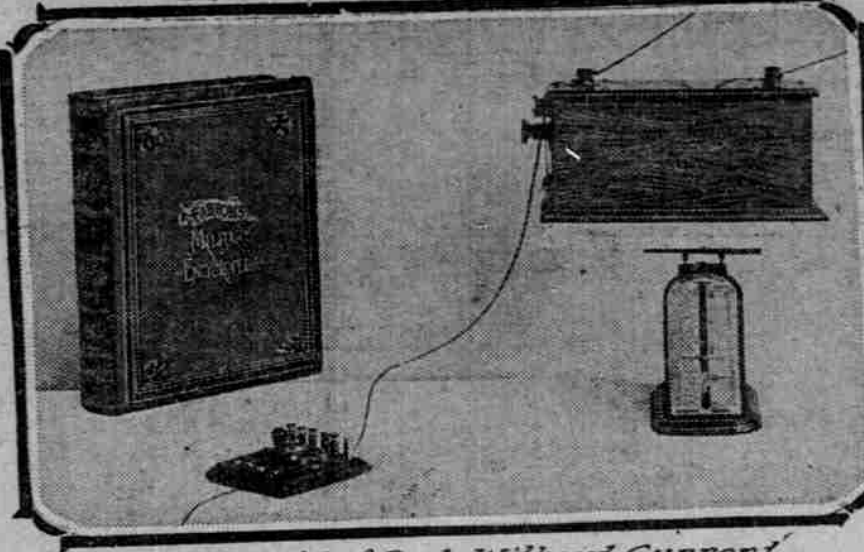
Edward S. Farrow, who believed he has discovered the secret of overcoming gravity by means of his "condensing dynamo."

learned that by doing this a parallel waves through suppositious ether and corresponding intensification occurs with the vertical force which controls gravitation. Thus buoyancy is added to an object held to earth or propelled toward it by gravity.

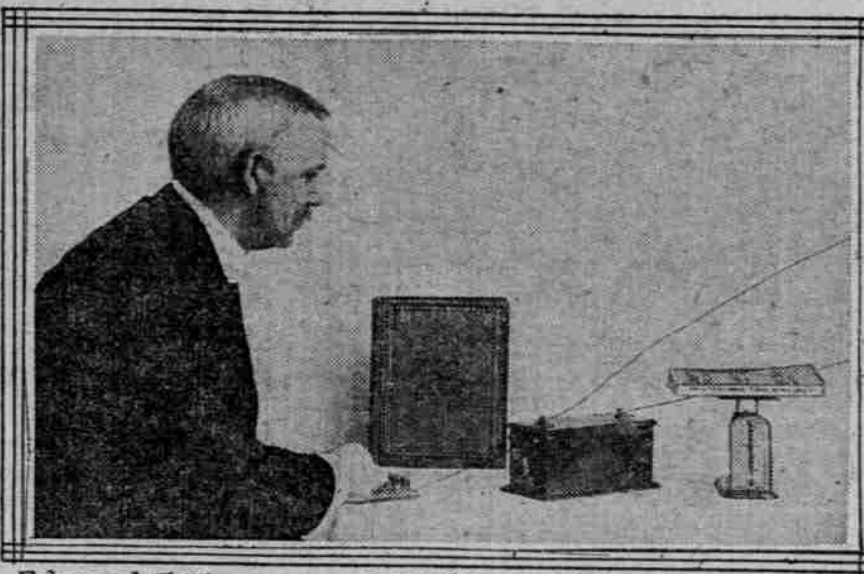
Hertz demonstrated that a very rapid oscillating discharge of electricity, such as that which may be established between two knobs, produces a disturbance in the surrounding ether which takes the form of electric waves penetrating space with the velocity of light. Previous to this discovery, which was announced about 40 years ago, scientists had known of electric currents passing through the air without a visible conductor, such as the lightning or the sparks between the poles of a battery. But it was not until Hertz advanced his theory that a satisfactory explanation was given of such phenomena. The mechanical application of the Hertzian theory led to the perfection of the wireless telegraph.

Mr. Farrow's investigations were based on a fundamental idea of creation expressed in a well-known algebraic equation. The formula means that action and reaction are equal, simultaneous and contrarily opposed. Thus in pushing a book across a table there is resistance from the table as well as from the opposing hand. If we call the pushing the action, then the resistance of the table is the reaction, and both occur at the same time, in equal proportion and in opposition to each other. To this he added other theories regarding electricity and gravitation.

It has been found that mechanical devices for controlling electricity also apply to gravity, regulating or intensifying the force of this attraction of foreign objects to the earth. By intensifying the motion of the electrical



Weight of Book Without Current



Edward S. Farrow and his "condensing dynamo"

ular movement, yet it appears probable that as a horizontal movement would cut fewer lines of force, the ascent and descent in an inclined plane would be, perhaps, nearly as easy as a strictly horizontal motion of the same craft. Devices can be employed for extending the magnetic or Hertzian stress in a horizontal plane of which the aerial craft would be the center, also for generating the energy to produce such a plane of influence.

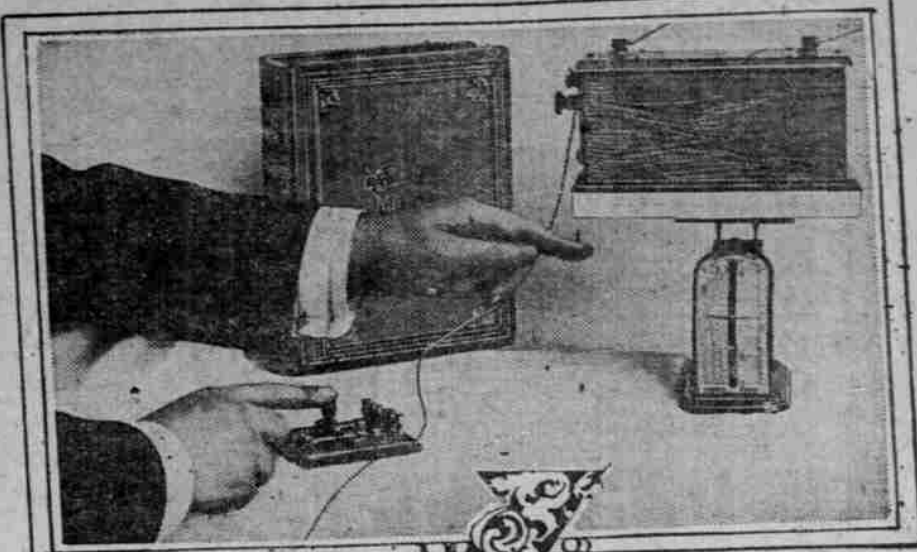
Among the methods for producing the horizontal magnetic plane around the aerial craft, there can be employed a horizontal row or ring of electric interrupters or breaks for producing Hertzian waves, the ring of electric breaks extending in a horizontal line around the sides of the aerial craft, or a similar line or ring of small electromagnets laid horizontally with their ends pointing outward, these magnets being wound with any turns of very thin, well insulated wire and supplied with high pressure electric current.

Magnetic or Hertzian wave impulses have a speed equal to that of light, or about 186,000 miles per second. It makes no difference that this speed is made in vibrations, if they are so produced as to be a horizontal plane; and it makes no difference whether this enormous vibratory speed be made in the atmosphere or in the supposedly

all pervading ether. The effect will be the same. These horizontal vibrations being produced on the aerial craft, and being in the same plane as the similar pulsations in the surrounding ether and the resistance of all vibrating matter to change in its direction of motion, will tend strongly to diminish, if not absolutely prevent, the down pull of gravity on the aerial craft.

This discovery has not been made by a purely scientific theorist. Mr. Farrow is a practical man. He is a graduate of West Point Military Academy, and for a number of years was tactical instructor at that institution. For eight years he was chief of scouts on the Northwestern frontier, having been sent out by the Government to take charge of this body of men directly after the Guster massacre. Later he became a consulting engineer, inventor and author. His "Military Encyclopedia," embracing the military knowledge of the world, ancient and modern, foreign and domestic, is a recognized standard authority on all military affairs.

It was while a cadet at West Point, as a member of the class of '78, that Mr. Farrow became interested in wave motion, that complex phase of physics which enters into the explanation of many of the forces of earth and air, and it was through the study of the



Weight of Book With Current Turned on. Note Reduction in Weight.

phenomena presented by this motion conveyances, could be increased by reducing the friction of the wheels on the tracks or road, and with the same amount of power as at present used.

During the eight years that he was in command of the Indian scouts Lieutenant Farrow had ample opportunity to continue his study of experiments. One of the things that puzzled him was the apparent defiance of the law of gravitation by eagles soaring, immovable, over the desert. Similarly he had observed other sailing or gliding birds, such as hawks and buzzards, hang high in the air, motionless, as far as the human eye could tell, and unaffected by the wave motion of the ether or the laws of gravitation.

Even after the conquest of the air by men the common explanation of the extended wings of the birds acting as aeroplanes did not seem at all logical or sufficient to Mr. Farrow. When the motive power of an aeroplane ceases while the machine is in air, the plane coasts downward, gliding to the earth. But eagles, buzzards and hawks, without motion of the wings and without a propeller to push them into the wind, rise to heights almost out of sight, sailing in great circles alternately going with and against the wind.

Mr. Farrow's theory is that Nature has slowly evolved some kind of generator of Hertzian or wireless energy in the birds as Nature has in the electrical eel and in the electric fish called the ray or torpedo. As the substances, which are insulators for common electricity, are good conductors for the so-called Hertzian waves, it is possible that the feather points around the edges of the bird's wings polarize a horizontal plane of influence, magnetic or Hertzian, in the atmosphere or superposition ether surrounding the birds, thereby producing the same effect as the "condensing dynamo."

In addition to its applicability to aerial navigation, some of the practical uses to which the new mechanism could be put are these: If a 12-ton girder was to be raised to the top of a skyscraper with a derrick of 10-ton capacity, the condensing dynamo would obliterate the two tons of excess weight.

Steamships could be made to ride more lightly and easily on the sea by making them "lighter," thus increasing their speed. Similarly, the speed of railroad trains, automobiles, streetcars and in fact all mechanically propelled

Crowding More Seat Space Into Subway Cars

A remarkable design for subway cars has been developed by the New York Municipal Railway Corporation—one that will allow an increase in passenger capacity per track of 25 per cent as compared with the original line. The present subway cars are 52 feet long and carry in the rush hours 169 passengers each. The new car is 67 feet long and has a maximum carrying capacity of 270.

The additional carrying capacity has been secured not only by increasing the length, but by increasing the width from 8 feet 8 1/2 inches to 10 feet and by arranging the seats in four groups divided by three pairs of doors in each side. One pair of doors is at the center of the car and the others at the quarter points. The wastefulness of the end vestibules has therefore been eliminated.

An interesting arrangement of both transverse and longitudinal seats has been worked out after most thorough study, taking into consideration the proper proportion between standing room and seats and the influence on time of stopping of the distance the passengers are from the doors.—Engineering Record.

Equipping an Agriculturist.

(Washington Star.) "How's your boy Josh doing?" "Well," replied Farmer Cortnosel, "Josh is a smart boy and mighty willin', but I'm goin' to have to send him to school, some more before I can depend on him for help on the farm." "Why, he is a well-educated young man." "Yes, but he's got to specialize. I'm goin' to keep him studyin' geology until he kin recognize a rock before he hits it with a plow."

"GUIDE TO THE RUINS OF EUROPE"

A Flight of Fancy Into the Future When War Has Had Its Reign.

GENEVA, Switzerland, Sept. 15—(Special Correspondence.)—Just before the breaking out of the great war a brochure calling attention to its dangers to European civilization was on the point of appearing simultaneously in all the capitals.

The wealthy peace society which has the work in charge counts on making its general publication immediately, if still possible.

It is entitled "Guide to the Ruins of Europe" and is supposed to be compiled in America a hundred years from now for the use of American, Australian and Oriental explorers in the style of Macaulay's New Zealand. "Desirous to visit the piles of ruins that were once proud capitals, cities blessed with art, industry and commerce before the great war destroyed alike the populations and their centers and left Europe a waste inhabited by scattered groups of survivors, without strength or ambition to restore civilization."

We give herewith selections from the chapter entitled "Paris."

Paris (Lutecia: Ruins of)—Ancient capital of France. These ruins are extremely interesting. Under no pretext should the explorer neglect them. They are more accessible than the ruins of London, Berlin or Vienna, and still preserve pathetic pretensions—relics of a glorious past—to constitute the center of light of a vast and desolate territory inhabited by the sparse communities of savage shepherds and primitive cultivators which distinguish the wastes of Europe.

A printing press exists in the Chaillot catacombs connected with the ancient subway inhabited in winter by the better portion of the population.

Four books have been published in Paris in the past decade, an effort unequaled elsewhere on the Dark Continent. They are "Our Fathers' Culture" (words of one syllable, 100 reproductions of pen drawings made in New York and gratuitously distributed in all the pleasure resorts), by M. Isaac Blumchen, President of the republic; "Hair-Growing as Good as Clothing" (brochure, 44 pp.), by M. Samuel Ricehendate, of Bucharest, Minister of Football; "The Paris Song Book and New Dances," by Raoul de Sancy (out of print, new edition preparing), and "My Fete," by Miss Annie Bloomfontain, the beautiful young South African dancer who took the Parisians by storm in the year 2001. (Explorers regularly purchase these unique works in quantity to encourage the natives. See Barten System. Any article of adornment, such as single eye-glasses, string of beads or pair of 8-ounce boxing gloves, etc., will provide the visitor with a pocketful of leather money.)

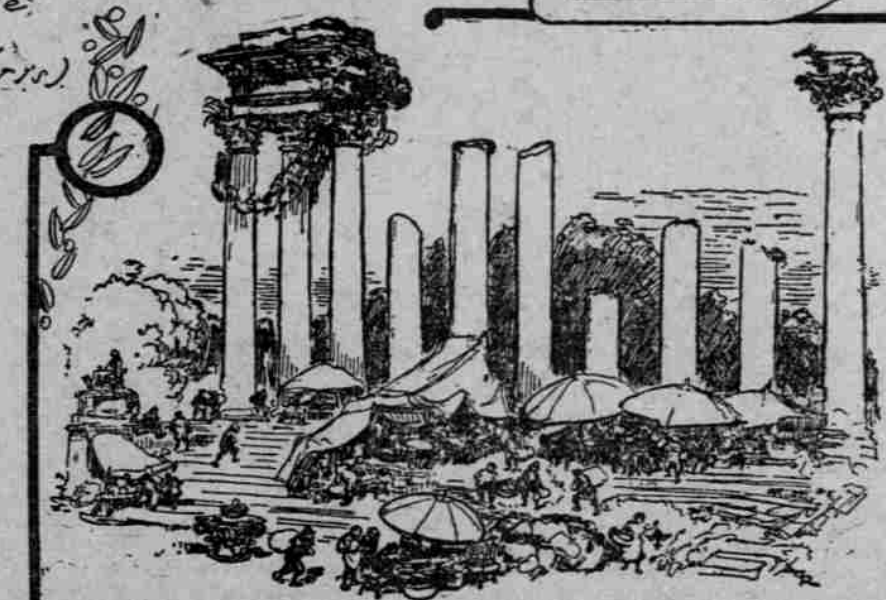


L'avenue de l'Opera, (Jungle of Paris)

Minister of Wolf Extinction. Marquis de Montromency, Trapper and Peltier, guides, porters, dog trains; the Casar-Bianc, Boss of the Northern Shepherds.

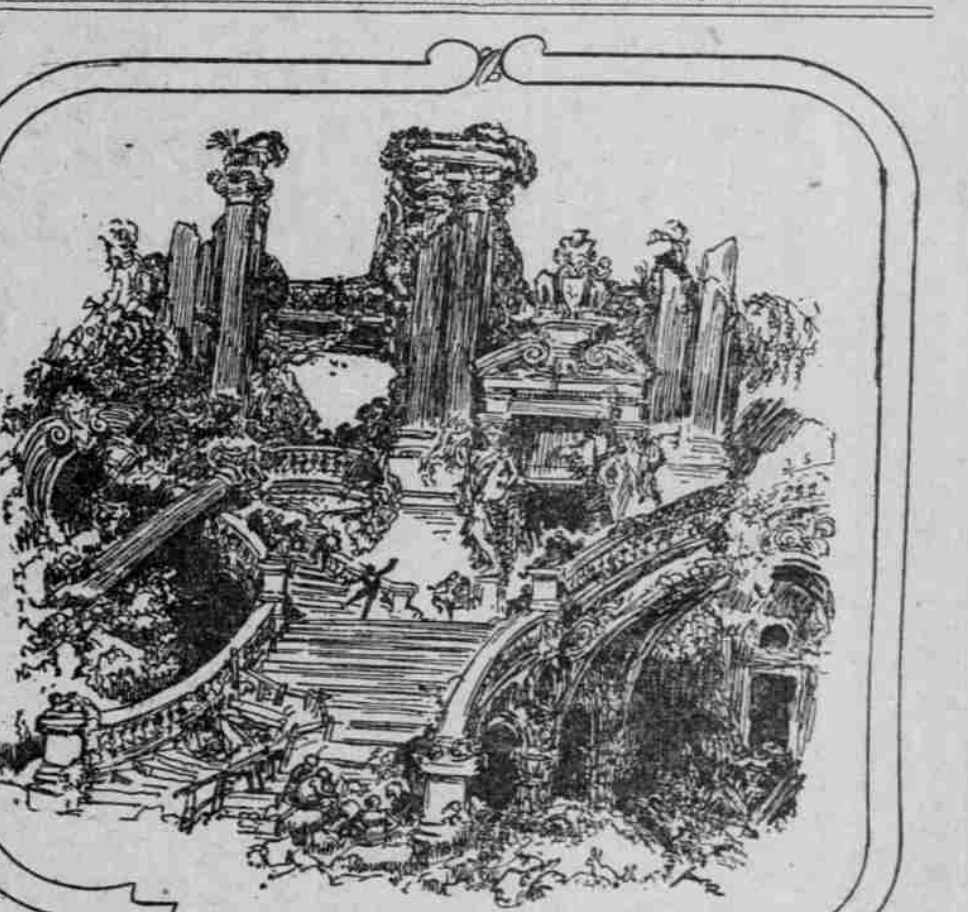
Places of interest: The Opera—This grandiose monument of the past, destroyed along with the Church of the Madeleine and the Opera quarter (see Avenue de l'Opera, in the second part of this Guide), in the second bombardment by the Germans in 1914, has been conceded to Miss Annie Bloomfontain and her Troupe of Blondes. Variety show every afternoon on the Grand Stairway from June to October. The crumbling interior, overgrown with wild vegetation, is unsafe. (The Wild Dogs of the Opera, which formerly made it their lair, were destroyed by the Roosevelt expedition in 1923.)

Market of the Madeleine—The chief place of barter of the natives, among the broken columns. (See Historical Chapter.) Twice a week it is the scene of the greatest animation in the Dark Continent, the native women here exchanging finery which sets the fashion among the simple populations as far



Madeline Market

650 separate pieces and 7,540,000 rivets. Beneath it flows the Seine, with the Trocadero Marshes to the right, inhabited by fishing tribes, 60 per cent of whose gatches are claimed by the re-



Grand Stairway of the Escalier de l'Opera

but they proved to be of too high an order of intelligence.

So run pages of the chapter "Paris" of the "Guide to the Ruins of Europe," which was prepared to warn the nations against the great war. It was not issued in time. The great war broke out too soon.

They still hope that it may put leaders and people on their guard; but now that the elements of destruction are unchained, it is the very thesis of the brochure that no human power can stop them. City after city will be destroyed.

Some 10,000,000 combatants are being thrown on the battlefields of Europe; and 10,000,000 more reservists and territorial arms being armed to follow them. In France every valid male from 15 years to 60 is being called out. Never was the machinery of death so gigantic or its material so wholesale.

At least \$80,000,000 per day is being spent in transports, equipments, armaments, soldiers' food, etc. Superhuman efforts are being made to prevent the bases of finance from crumbling; but this brochure foresees a time when gold itself will be worthless in Europe.

"All factories will be closed," its preface runs; "all railroads will stop running, all commerce will be para-

lyzed. The countryside, ravaged by war and neglect, will no longer have food for their own populations. In the cities, crumbling and decimated by bombardments, the old men, women and children will riot in famine. All provisions will be with the armies; and the armies will continue fighting—to kill each other off, and get possession of the precious foodstuffs!"

Such is the black picture of the future.

Evidently it is to prevent these things arriving. But who listens? STERLING HEILIG.

The Jewish Immigrants.

Century Magazine.

The Jewish immigrants cherish a pure, close-knit family life, and the position of the woman in the home is one of dignity. More than any other immigrants they are ready to assume the support of distant needy relatives. They care for their own poor, and the spirit of co-operation among them is very noticeable. Their temper is sensitive and humane; very rarely is a Jew charged with any form of brutality. There is among them a fine elite which responds to the appeal of the ideal and is found in every kind of ameliorative work.