

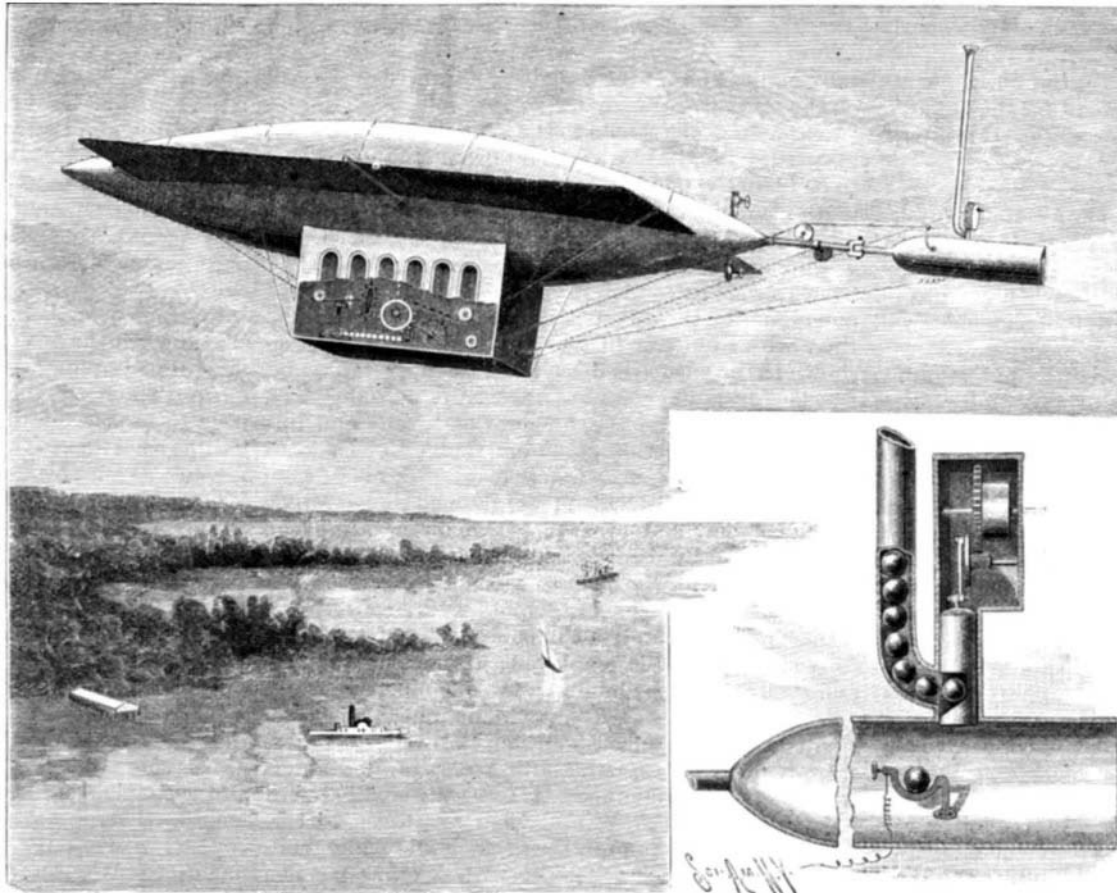
## A NEW AIR SHIP.

The principal feature of the means of aerial navigation shown in the picture consists in the method of propulsion employed, the power for this purpose being afforded by discharges of small and readily regulated quantities of a high explosive, of which a very considerable amount can be carried without adding greatly to the weight of the whole apparatus. The balloon portion of this air ship is of a cigar-shaped model, having a framework of aluminum, covered with oiled silk or other suitable fabric, or with a thin envelope of aluminum, and is of sufficient size to afford, when filled with a light gas, a lifting power corresponding with the weight of the car and the load it is proposed to carry, all of the apparatus and fittings being of the lightest possible construction consistent with the necessary strength. At each side of the body are wings or side planes, to guide the air ship up or down, according to the inclination given them, these vanes turning on a horizontal axis, consisting of an aluminum tube extending through the center of the body. As seen in the broken-away portion of the car shown in the main view, wire ropes or cables from these side vanes extend over pulleys with gear wheel connections within the car, so that the operator, by the movement of a lever, can regulate to a nicety the inclination of the vanes.

The propelling apparatus, in which the main novelty of this invention lies, is supported upon a hinged arm at the rear. It consists, practically, of a horizontally arranged mortar-like tube, forming the end of the arm, and above this tube, as shown more in detail in the small view, is a tubular magazine containing globular or pellet-like charges of a high explosive, with the mechanism for regulating their supply to the discharge tube. The explosions, as they take place in this tube, exert a powerful backward pressure upon the air, which may be more or less nearly continuous, according to the power to be applied to propulsion and the rate of speed sought to be attained, an air cushion back of the explosive chamber protecting the machine from shock. The rate of discharge may be controlled through a wire extending to within easy reach of the operator within the car, while light wire cables extend from the discharge tube over pulleys to a gear wheel steering apparatus in the car, the arrangement being such that the tube may be readily swung to one side or

to the other as desired, the direction of the ship in the air being thus conveniently controlled. The discharge tube thus at the same time supplies the motive force and constitutes the rudder. The charges are fed automatically to the point of discharge, the pellets dropping into a shallow cup or basin, which is made by the contact to complete an electric circuit, whereby the firing is effected, each pellet completing the circuit for its own explosion and at once breaking the circuit.

It is the belief of the inventor that with one of these machines, possessing a minimum of weight, owing to



BATTEY'S AERIAL SHIP

the absence of machinery and the use of aluminum instead of iron or steel for the framework and all the working parts, and provided with the maximum of power, due to the nature of the force employed, a speed can be attained excelling even that of bird flight. The car may be gradually reduced in width fore and aft to a sharp vertical edge at each end, offering the least possible resistance to motion, and it is suspended by aluminum wires and cords from the entire length of the body. It is designed also that machines of this type may be used for carrying freight and for regular passenger service, and their value will be obvious for such purposes as military observations, carrying of mails and dispatches, etc. This new air ship has been patented in the United States and the principal European countries by Dr. S. B. Battey, of No. 39 West Twenty-seventh Street, New York City.

## THE WORLD'S COLUMBIAN EXPOSITION.

With the close of the present week the great exposition will have been dedicated, with official ceremonies and a great civic parade, followed by a military parade, dignitaries being present from all parts of the world, and the representation from all parts of our own country being in every way worthy of a nation of nearly seventy million people, the most intelligent and the most prosperous, as a whole, of any people in the world. The enterprise is now, therefore, fully before the world as one which all classes and those of every section are earnestly endeavoring to promote, in the full confidence that the fair, of whose great extent and popularity there are already such abundant evidences, will be one which will do full credit to the whole country.

The inaugural exercises proper were arranged to take place in the great Manufactures and Liberal Arts Building, shown in the accompanying illustration, and in which one hundred thousand people could be readily accommodated. It is the largest exposition building ever constructed, covering nearly thirty-one acres of ground. To get it ready in time for the opening exercises was a vast undertaking, and has required many weeks of high pressure service on the part of the various heads of the construction department, with their army of assistants, but the business was so thoroughly organized that there has been at no time any possibility of failure. And this is only one of a great number of large buildings, nearly all of which are now approaching completion, whose construction has been carried on so rapidly that they seem to have almost sprung out of the ground as if by magic. But there will be nothing cheap or unsubstantial in the appearance of the structures which have arisen in such a marvelously short space of time, for their staff coatings will give them the appearance of stonework of great solidity, combining the highest architectural effects with the most artistic representations of the sculptor's art.

The statue for the Administration Building, shown in our view, is but one of a great number of groups of striking beauty and appropriateness with which nearly all the buildings are to be richly embellished. A large number of sculptors has been employed upon this work for several months past, and now, as the designs are being sent forth from the various studios in their completed form, the work gives one a vivid



MANUFACTURES AND LIBERAL ARTS BUILDING, LOOKING NORTH FROM THE SOUTHWEST CORNER.