FLYING MACHINE FOR WAR.

To Be Built on a Plan Resembling a Gigantic Butterfly and Carry One Man.

WASHINGTON, July 5, 1895.—The officials of the Army Signal Service have practically decided to build a flying machine. When completed it will be used in a series of experiments whose object will be to determine, if possible, the practicability of artificial soaring flight.

The construction of the flying machine will probably be under the supervision of Captain Glassford, of the Department of the Colorado, who, under General Greely, of this city, Chief Signal Officer, U. S. A., has been carrying on extensive experiments in military ballooning for the last three years. Captain Glassford is making preparations for an extensive exhibit to be instituted in connection with the Denver Exposition, to open July 1, 1896. This exhibit will illustrate many of the conspicuous phases of military aeronautics. A whole department of the exposition will be devoted to aerodynamics, and in all probability the War Department will give Captain Glassford permission to take charge of it. During the intervening year, previous to the opening of the Colorado fair, every effort will be lent to the construction of an apparatus which may actually carry a man for the amusement and instruction of the people to assemble in the Western city next summer.

The mechanism to be constructed is what is known as the soaring apparatus, the only kind of flying machine on the aeroplane order which has actually succeeded in transporting a man in free air. One of these has been built and successfully used by Herr Lilienthal, a German engine manufacturer, who succeeded in flying several hundred yards by its means. The same device has been made and improved by an American engineer living in New York city. A new apparatus on these lines will be constructed for the exhibit mentioned.

THE MACHINE.

Captain Glassford is a sanguine enthusiast both as to the future of his balloon experiments and the accomplishment of mechanical flight by means of the aeroplane. He believes that Professor Maxim, in his late experiments, has presented many points of the true flying machine hitherto unsolved. The new soaring apparatus will greatly resemble a gigantic butterfly, with large curved, but fixed, wings, provided with a flat tail and upright keel projecting out behind. It will be about thirty feet across from tip to tip of wings, and about seven feet from front to back. It will expose about 160 square feet of surface. This surface will consist of fine cloth, stretched tightly over a framework of light wood, held in place by fine steel wire. There will be no movement of the wings whatever. The whole surface will be rigid, without hinges or joints for the movement of one part against another. The whole is designed to represent the eagle in the act of soaring. From the centre of the machine to the front edge will be left an open space to be occupied by the aeronaut, who flies in a standing position.

NO MOTIVE POWER USED.

Herr Lilienthal, the German, who made the first soaring apparatus on this pattern, started from the top of a hill with his flying machine, and by running against the wind was able to sail forward and downward, holding fast to the framework in the centre. He made many such flights of several hundreds of yards, the hill being about 200 feet high. He has since built an artificial conical hill, about fifty feet high, on which he has been experimenting during the past year and a half. According to an English army officer, who witnessed his experiments, the average length of his soaring was generally about ninety yards. Lilienthal conceived the idea of imitating the soaring of those birds which appear to fly for hours at a time without the faintest effort, apparently utilizing every change either of direction or intensity of wind. He believes that soaring birds, like the eagle or buzzard, for instance, while thus in motion derive their entire support and motive power from the rising currents of air believed to exist at certain altitudes. The soaring apparatus, therefore, if perfected and engineered by one who well understands the science of the birds soaring, will be sent high in the air without aid of any motive power, either steam or electricity.

Captain Glassford has studied the English, French and German systems of military ballooning. He spent considerable time at Aldershot, England, where many experiments in this science have been made under direction of the British army. In a recent sham battle near Aldershot a balloon was used, but although the aeronauts were able to study the movements of the enemy they could not save the balloon itself from being captured. The approach of the enemy, however, was observed, and although those below were unable to save the balloon from capture, the balloon signalled to the latter to remove the gas tanks and other supplies to a place of safety. All of this goes to show that the balloon, although in peril itself, is an invaluable means of defence and information to the army manipulating it. The English balloon, like ours, cannot, of course, be allowed to float freely in the air. It would be at the mercy of the wind and might float directly over the territory of the enemy and eventually fall within their lines. Every military balloon except that used in France is a captive.