

## LOCATING THE WASHINGTON MONUMENT

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On November 19, 1934, work was begun to permanently and accurately locate the Washington Monument, latitudinally and longitudinally speaking. A triangulation party in charge of Lieut. John BOWIE, Jr., taking advantage of the scaffolding erected around the Monument for the purpose of repairing and cleaning it, ascended to the 500-foot level in the scaffolding-elevator and then climbed by ladder the additional 55 feet to the wind swept top of the monument. Here they set up their theodolite and proceeded to observe and record the various angles to other triangulation stations by means of which the position of the monument might be computed. Directions were also taken to various prominent structures such as the Capitol, church spires, etc., in order that they, too, might be located.

These records were then submitted to the triangulation section of the Division of Geodesy where the final computations were made. As a result the position of the Monument is now determined to be exactly  $38^{\circ} 53' 21''.681$  in latitude and  $77^{\circ} 02' 07''.955$  in longitude and no longer need be referred to merely as being near 15th Street and Constitution Avenue, N. Y.

The historic structure now takes its place in the national network of triangulation stations which covers the United States.

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## GEODETIC BASE IN THE ISLAND OF GRAND CANARY MEASURED BY THE HYDROGRAPHIC EXPEDITION OF THE ARCHIPELAGO

by  
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With the object of giving seamen who use our charts an idea of their accuracy, I give here a summary of the work to be done to obtain a *Geodetic Base* and thus show the degree of accuracy and the attention devoted to the surveys of our coasts.

To obtain the outline of the coasts it is necessary to calculate the geographical positions of a certain (usually very large) number of points in the area but, as the taking of observations at each of these for its latitude and longitude would be a terrific job (apart from other reasons of a technical character which militate against this), in practice it is preferred to determine the position of one or several (but few) points and to deduce the others from these, connecting them by a series or chain of triangles in which the angles formed at each station by the lines joining two others are observed.

In order that the lengths of the sides of the triangles thus formed may be found it is necessary to know the length of one of them, and this as accurately as possible, seeing that on the precision with which this length is known depends the accuracy of all the triangles of the chain.

This side, the length of which must be known with great accuracy, is called the *Base* and is measured directly on the ground by means of an appliance which is essentially nothing more than a wire of special steel alloy the variations in length of which, due to temperature, in addition to being very small, are perfectly regular and known.

The measurement of a distance with a wire of this sort is based on the following considerations:—

If we stretch a wire at a determined tension it will form a catenary and, conse-

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(\*) *Information compiled from Revista General de Marina, Madrid, March, 1936.*