

THE WATERSPOUT NEAR TARRYTOWN, N. Y., JULY 16, 1904.¹

By the late MARSHAL L. BACON, Tarrytown, N. Y.

A remarkable phenomenon occurred over the Hudson River nearly opposite Tarrytown, N. Y., on Saturday afternoon, July 16, 1904. A large waterspout formed over the river, which, to persons watching it from the Tarrytown shore, appeared to be moving down the river and toward them. Varying accounts have appeared in the local papers and in the New York City dailies, one of which reproduced a sketch of the waterspout. The description accompanying this sketch was misleading, as it referred to the waterspout as having formed off the New Jersey shore, while as a matter of fact it was off the shore of Rockland County, New York State, a short distance above the village of Nyack. The writer viewed the waterspout from a hilltop back of Tarrytown village, at an elevation of about 400 feet above the river, and about two and one-half to three miles distant from this unusual phenomenon. A camera and a field glass aided in the operation, and although looking toward the west at 4:30 in the afternoon, with the sun obscured by the heavy clouds, still a very good view of the waterspout was obtained with the kodak. It is reported that those viewing the waterspout from the Nyack shore saw the river bottom laid bare, but to those viewing it from the Tarrytown, or easterly, shore of the river, there was no such appearance. Newspaper reports have it that dead fish were washed up on the Nyack shore in large numbers within a day or two after the occurrence, and that cartloads of them were carried away. As to the truth of this report the writer is not informed.

The weather conditions at the time the photographs were taken are of interest. To the eastward a severe storm had been raging for over an hour, demolishing houses and uprooting trees in the village of Chappaqua, about seven miles northeast of Tarrytown. While, of course, those who observed the waterspout did not know until later of the destruction wrought by the storm at Chappaqua, it was plain to all observers that something unusual was going on.

It was evident also that a severe thunderstorm was in progress west of Nyack, but from the time of the forming of the waterspout until after it had disappeared, no rain fell, either in Nyack or Tarrytown, or on the river between the two places.

The progress of the waterspout in a southerly direction (down the Hudson River) may be traced by observing the contour of the Nyack hills as they appear in the photographs. These hills are about 300 feet above the level of the river, which is approximately two and one-half miles wide at the point where the waterspout appeared. The dimensions of the spout could be approximately determined by observing a small sloop, lying closereefed and apparently in the track of the ominous column of water. The hills formed a background for the lower portion of the column, and thereby served as a measure of its height. In connection with the waterspout, shown in figs. 1 to 6, it should be noted that a smaller spout had been seen, about 4:15 p. m., apparently moving from a point five miles above Tarrytown westward across the river, where it seemed to disappear near Hook Mountain, a point about the same distance above Nyack.

The waterspout seen in the photographs formed at a point a little south of Hook Mountain and moved southeasterly.

¹ Through the very kind efforts of Robert J. Fisher, Esq., of Washington, D. C., and the courtesy of Mrs. Marshal L. Bacon, of Tarrytown, N. Y., we have been fortunate enough to secure a description and photographs of the waterspout that was observed on the Hudson River, near Tarrytown, on July 16, 1904. Both were made by Marshal L. Bacon, since deceased. Mr. Bacon, who was the auditor of the New York Central and Hudson River Railroad, had always been a close and careful observer of meteorological conditions, and to that fact we owe this description of the very unusual phenomenon of a waterspout far from a large body of water.—H. C. F.

Several persons who observed the strange sight closely are positive that the cloud did not come down in funnel shape to meet the rising column of water, as is said to be usual in tropical waterspouts, but, on the contrary, the column of water rose, clear cut, to the cloud, forming a vertical column. This was approximately at 4:25 p. m. At 4:35 p. m. the waterspout had disappeared.



FIG. 1.



FIG. 2.

The wind appeared to be carrying the clouds to the northward, while the base of the waterspout apparently moved in a southeasterly direction. This movement of the base may have been due, in part, to currents of air on the surface of the water and to the state of the tide then running.²

The snake-like column, ominous, and with a whirling motion, appeared to advance from the Nyack shore toward Tarrytown, at the same time moving down the river. Its color was dark lead, whiter at the base where the water appeared

² The flow of surface river water, or tide, can not have had any appreciable influence on the movement of the cloud, or spout, or the spray forming the base of the spout.—EDITOR.

to be churned. Figs. 1 to 6 confirm this impression of rotary motion, as will be seen by closely observing the base. Observe, also, the contour of the hills and the positions of the water-spout as seen in figs. 1 and 3, plainly indicating its movement down the river.

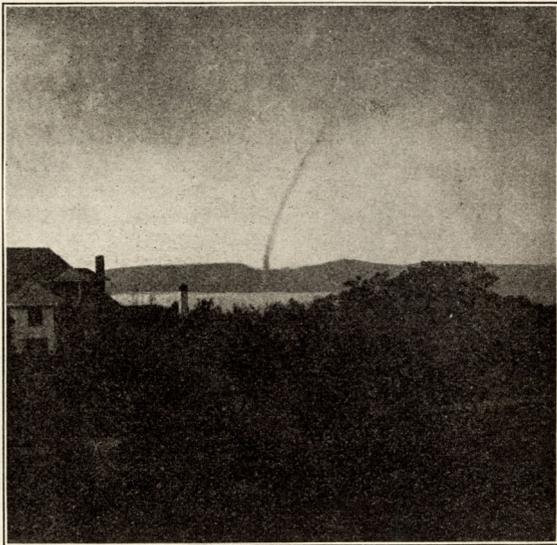


FIG. 3.

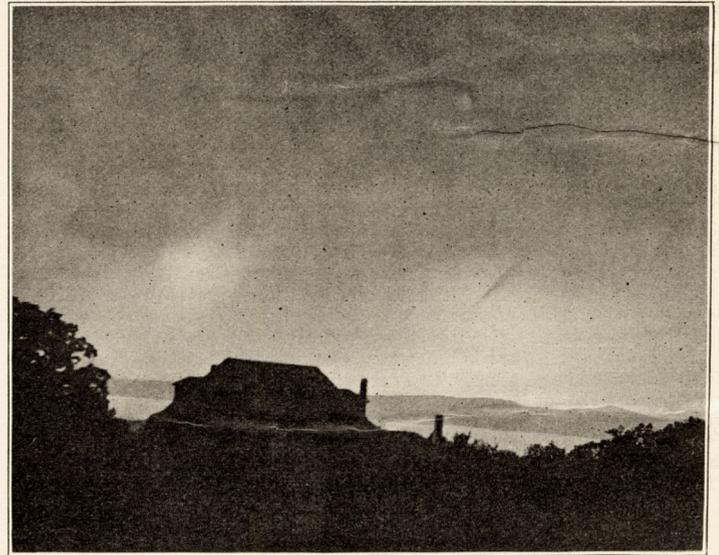


FIG. 5.

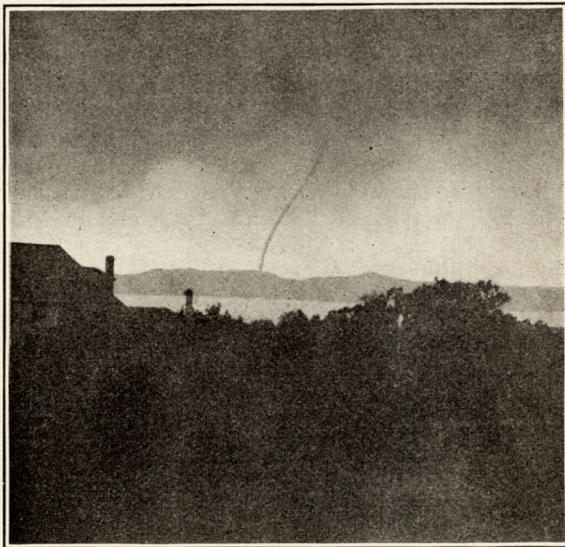


FIG. 4.

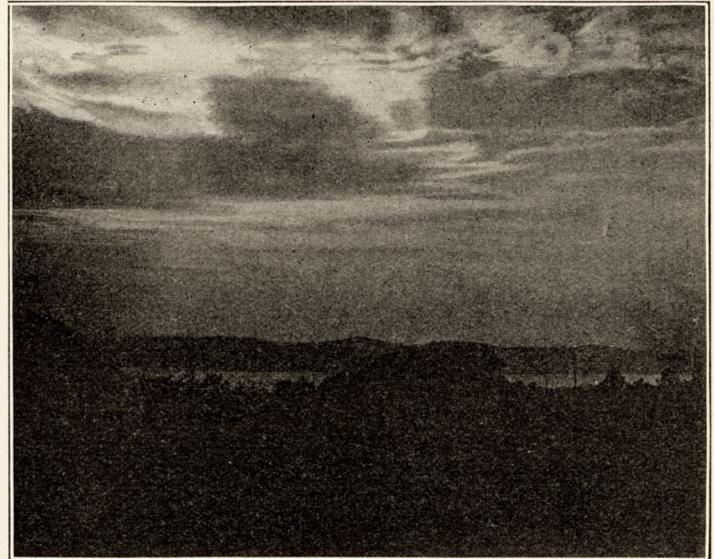


FIG. 6.

It is estimated that these snap shot photographs were taken at a distance of two and one-half miles, and that the water-spout traveled about one mile from the time of its formation to the disappearance of the receding column in the cloud, an interval of not more than ten minutes. The rotary motion was distinct while the column was intact until the last of it was drawn up into the cloud, still whirling and without discharging a drop of water.

It was expected by those observing the waterspout that, when the base became detached from the column, a considerable commotion would be observed in the river, but, as a matter of fact, the effect observed when the base settled into the river was about the same as the dumping of two or three tons of gravel would have caused. It was believed by those closely watching this occurrence that, had the waterspout engulfed

the sloop, the centrifugal force exerted would have lifted it high into the air. It is calculated that the base of the spout was 300 feet across and 50 feet high, that the column that rose out of the center of this base of whirling water was at least 50 feet through, and that its length was 1500 feet, possibly 2000.

Apparently there were two storms which either met above, or created currents of air which resulted in the formation of the waterspout. Within twenty minutes after its disappearance the storm³ traveled across the river from west to east, the edge of it striking the northerly outskirts of Tarrytown. Severe hail fell for a few moments, and considerable damage was done to fruit trees in the region of Sleepy Hollow.

So far as the writer is aware, the "oldest inhabitant" does not remember to have seen or heard of a waterspout in the Hudson River, although there is a rumor of one having been seen many years ago in New York Bay off Staten Island.

³This probably refers to the thunderstorm mentioned above as being in progress west of Nyack while the waterspout was observed.—EDITOR.