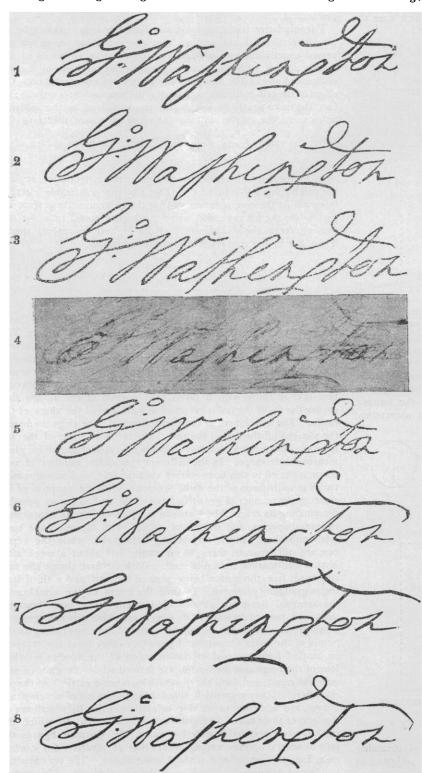
WASHINGTON'S SIGNATURE.

DR. PERSIFOR FRAZER published in 1886, in the "Proceedings of the American Philosophical Society," a paper on composite photography as applied to handwriting.

George Washington's signature was one of the first to sug-



gest itself for the purpose, because many persons were familiar with it, and there are numerous well-authenticated documents in existence which bear it; but it has proved to possess other advantages which were not known when it was selected. As in every hing else, Washington was deliberate, painstaking, and uniform in his method of writing his signature, and the consequence is that it makes an excellent composite for illustration.

In writing his signature, Washington put pen to the paper five times. First, he wrote the G W in one connected line. Second, he raised his hand and made the small o between the upper parts of the G and W, and the two dots which appear in all but signature No. 7. Third, his hand and arm were placed in position to write *ashing*, these six letters occupying a breadth of almost ex-

actly 1³/₄ inches in every signature except the third, when they are extended to $I_{\overline{16}}^{18}$ inches. This is about as much of the arc of a circle (of which the centre is the elbow pivoted on the table) as one with a fore-arm of average length can cause to coincide with the tangent, or the straight line across the paper which the lower parts of the letters follow, unless unusual effort be made, and a great deal more movement be given to the fingers. The gends in a curved flourish, of which the convex side is turned upwards below the right centre of the name. The lower loop of the g in all the signatures and in the composite was cut off in preparing the plate. Fourth, he wrote the final ton. Fifth, he added the very peculiar flourish, above the right centre of the name, with the object of dotting the i and crossing the t at the same stroke.

In examining the composite, the effect of these various separate movements becomes manifest in its strengthened portions. It is hardly possible that any one, during the period of sixteen years which these signatures represent, or from 1776 to 1792, should have so schooled his hand to write a long name that the first inch or so of the writing should always occupy the same relative position to the body of the signature. It would take at least that much action for the hand and arm and pen to be brought into normal signature-writing condition; and especially is this so when this part of the writing is accompanied by flourishes, as it is in the case we are considering. The G W, and the little o, and the dots at the top, were the prelude, after which the arm was moved into position to write the main body of the signature, or the ashing. Of course, from the manner of making the dots, and the extremely small space they cover, their re-enforcement of each other in the composite was almost impossible, and, in fact, like other subordinate characters, they disappear almost completely. This latter is the part of the name which one would have expected to exhibit the greatest amount of uniformity, as in point of fact it does, with the exception of its terminal g, which shows more variation than any of the other letters, because at this point the limit of coincidence between the tangent line of the writing and the curve, of which the right fore-arm was the radius, had been passed, and a freer movement of the fingers was compensating for the increasing divergence. It is likely that Washington sometimes raised the hand between the end of the long s and the beginning of h, but he does not appear to have moved the elbow. All but the second signature are consistent with this view, and in the first, third, and fifth it is plainly indicated. In the others, as in the flourish above the sixth signature, the pen may not have marked. The fourth separate act of the penman was the formation of the ton after a movement of the arm. The breadth of the space occupied by these three letters is from $\frac{5}{8}$ to $\frac{7}{8}$ of an inch, or considerably

within the range of coincidence of the curve and straight line before referred to; and owing to this fact there is only a moderate degree of re-enforcement of the letters in the composite, because these letters might fall into the first or last parts of the 2-inch space which was the limit of movement with a fixed elbow. The fifth and last movement was the flourish which dots the iand crosses the t by one stroke.