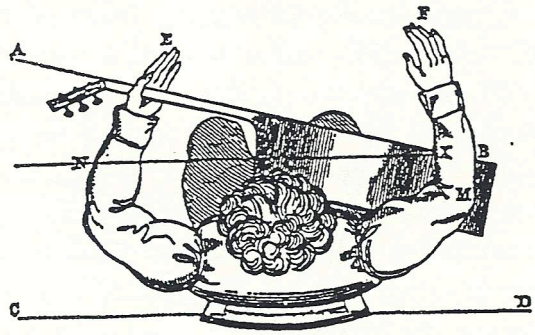
raised for a long time, the circulation of the blood must be affected in the parts most distant from the body; that the line C D, formed by the fore-arm indicates its continuation D E as the natural direction of the right hand, and that the latter being obliged to rise to encounter the strings, the wrist must be in a continual state of contraction in

Fig. 9.

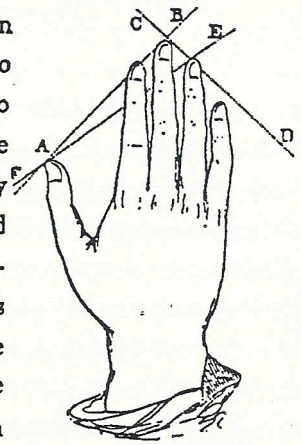


order to keep it curved. I establish as a principle that since on my left I should have only the hand beyond the line A B, fig. 9, whilst on my right, half the fore arm should be advanced, the line A B could not by any means be parallel to the line C D, if I wished to prevent displacing my right shoulder, and the parallel could only be N B. Thus placed, I found that by letting my right hand F incline naturally, it came exactly in front of the strings; that, from its form and the different lengths of the fingers, I could use to advantage the dimensions given it by nature, instead of modifying them in order to accommodate them to the proper distances; and that the point X, at the middle of the fore arm, serving me as a support, I had only to make a motion with the elbow to cause the arm of the lever X M to act in the opposite direction to that which I desired to communicate to the other arm of the lever X F.

RIGHT HAND.

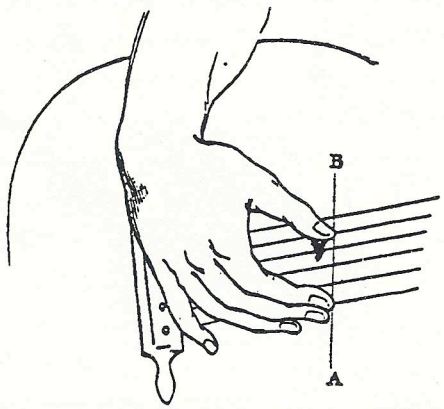
The line on which the strings bear at the edge of the bridge, is a straight line, as well as that of the nut, consequently all the strings are in the same plane. If these strings were to be touched by keys or moved by quills, like the old harpsichords and spinets, all the hammers or jacks (when not set in motion) would be seen to form a straight line parallel to the strings which they were to set in vibration; and when several were made to act at once, they would always preserve a straight line parallel to the plane of the strings, and this would be one cause of uniformity in the quantity and quality of the sound. From this truth I deduced that it is necessary for the ends of the fingers of this hand to be placed in a straight line in front of the strings and parallel to the plane which they form, and I examined whether my fingers were found in that situation naturally. I saw that my fingers did not allow me to apply a straight line to touch the extremties of more than three of them, fig. 10, A B, and that if I wished to bring in the fourth, it would always be at the expense of the two which, being obliged to be bent not to over-pass the line E A (the others continuing extended), would place my hand in a constrained position, on account of the difficulty which I have always experienced in bending one single finger (excepting the thumb), if the others have not a point of support, as happens to the left hand. The joint of the thumb as well as its position cause its action to be in another direction different from that of the fingers, and, besides the possibility of pushing the string, it can approach them or recede without deranging the hand. It can slide on two succeeding strings with such a velocity as to make them both be heard together. I therefore establish as a rule of my fingering, for the right hand, to employ commonly only the three fingers touched by the line A B, and to use the fourth only for playing a chord in four parts of which the part nearest to the base leaves an intermediate string, as in example 1, Plate I.

Fig. 10. *Right hand.*



The fingers in front of the strings should not be more curved than those represented in fig. 11. The act

Fig. 11. *Right hand.*



of setting the string in vibration ought to be only the act of shutting the hand, without however shutting it entirely. The thumb should never be directed towards the hollow of the hand, but act with the next finger as if going to make a cross with it, going itself above the finger. To keep the line A B parallel to the plane of the strings, I found it necessary to raise the hand a little on the side of the little finger. Many other precepts I imposed on myself with regard to the right hand; but as its position alone is the matter in question here, I shall speak of them when treating on the quality of tone and the manner of setting the strings in vibration.

LEFT HAND.

This hand has occasioned me to make many more reflections than the right. I observed that most guitarists had only half the hand before the finger-board, because it sustained the neck, with the summit of the angle formed

Fig. 12. *Left hand.*

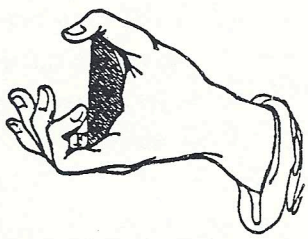
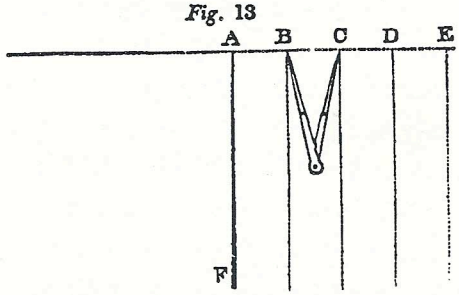


Fig. 13



by the thumb and forefinger, fig. 12; that in this position I was obliged to contract the forefinger excessively to press F at the first fret of the smallest string; that the ends of my fingers not falling perpendicularly on the strings, I must make greater efforts to press them, and consequently it was almost unavoidable to touch the neighbouring string and to damp a sound which I might want; and when I had to perform a note a semitone higher than that which was within reach of my finger, it was necessary to displace my whole hand, which I could not do without displacing likewise the fore arm; and I could not acquire a perfect assurance of finding again the point desired, when removed from it, if my whole arm was to concur in the action, because if I ought to be sure of taking the distances A B, B C, &c. (fig. 13). exactly, I could never be so certain by using a stick E A, as by employing the small pair of compasses B: the length of the former and the want of a point of support occasion the end of it to be more liable to variation than the points of the compasses.

All these inconveniences were motives sufficiently powerful with me not to place my hand in that manner. I saw no reason why the thumb, which plays such an important part in the right hand, should do nothing in the left hand, except on occasions wherein nature having given it neither the suitable form nor dimensions for that employment, it