



The first of the above figures represents the instrument complete and in working order. It consists of B, a flattened tube or sheath of polished metal, measuring eleven inches in length and half an inch in width; the bore being about four lines by three. At one end is arranged a wooden handle, A; and just above the handle, on each side of the tube, a strong spring-catch, D, to play into the teeth of the two rods, E, which traverse the centre. As the tube is open at both ends, the rods may be readily removed. They are square metallic bars, perfectly smooth on their inner or applied surfaces, but notched on their outer sides. At one end they are firmly connected with a steel handle, F, by means of screws, and at the other they are furnished with small pivots, on which is fastened the chain, C. When the instrument is worked, it is held firmly with one hand by the wooden handle on the barrel, whilst with the other the extremities of the steel handle, into which the bars are fixed, are alternately raised and depressed. By these movements the bars alternately advance, the extent of the motion being deter-