

instruments of the group. These may vary indefinitely in the widths, lengths and angles of blades. For these differences we will propose other terms.

RIGHTS AND LEFTS.

There is a distinct division in operating instruments, known as *Rights and Lefts*. Among excavators we have two forms of rights and lefts. The *beveled* rights and lefts and the *lateral cutting* rights and lefts, or, true double plane instruments. The beveled rights and lefts are hatchet forms made rights and lefts simply by the form of the bevel of the cutting edge. Most of the hatchet forms have bi-beveled edges, *i.e.*, the edge is formed by grinding equally from the two flat sides of the blade. The beveled rights and lefts are formed by making two hatchet forms alike, and then grinding the bevel all from one side on the one, and all from the other side of the blade on the other. The result is a pair of instruments, the one suitable for shaving down the buccal wall of a cavity, and the other suitable for shaving down the lingual wall. The cutting edges are upon opposite sides of the blades, making them rights and lefts. These are used mostly for cutting enamel in opening cavities, but may also be used very effectively in cutting dentin. Any of the hatchet excavators may be made in pairs and converted into beveled rights and lefts, but the general adoption of this, while producing excellent instruments, multiplies the number of instruments in the operating case to such a degree as to cause confusion. For this reason the formation of beveled rights and lefts should be very strictly limited to enamel instruments, or to special instruments for heavy cutting.

LATERAL CUTTING RIGHTS AND LEFTS.

True Double Plane Instruments.—The double plane, or intersecting plane rights and lefts are a totally different class of instruments, and are designed for lateral cutting, while the other forms, single plane instruments, are for direct cutting. If any of the single plane instruments be laid upon a table or any plane surface, in a certain position, it will readily be seen that all of the angles and curves, no matter how many, are in a single plane. If it is held before the eye, in a certain position, the instrument appears straight—such instruments are suited for direct cutting.

If we carefully examine the rights and lefts known as spoons or rapid excavators, it will be noted that each has an angle or curve that is not in the same plane with the principal angle or curve, but in a plane that intersects the plane of this principal angle at right angles. These we will call *double plane* instruments—they differ essentially from the single plane instruments in that they are specially suited for lateral cutting. They are always made in pairs.