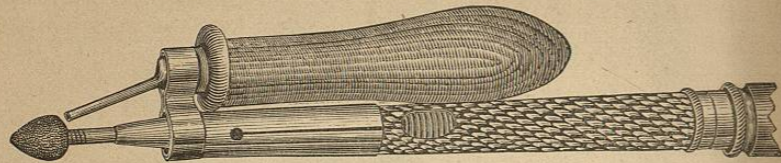


the patient. 2d. The separated surfaces can be polished quickly and perfectly. 3d. The disjoining is done with rapidity, as the disks readily grind away the hardest enamel.

Drop Tubes.—Drop tubes are a necessity in the use of rapidly revolving

FIG. 126.—HERRICK'S FOUNTAIN DRIP-POINT.

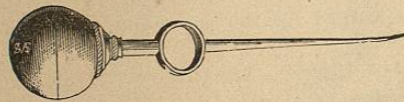


instruments. These, as shown in the cut, are little affairs constructed with a view to the continuous dripping of water; a very good one, conveniently manipulated with the finger, is a suggestion from the practice of Dr. F. Herrick. It is not necessary to make attachment with the hand-piece, as here shown, although such a relation adds to the convenience of the operator.

Chip-Blower.—A chip-blower is an ordinary air-syringe. Several kinds are made. They are used by hand or are attached to the engine. Hot or cold air is employed as desired. With most persons the chip-blower is replaced by a water-syringe.

Water-Syringes.—A water-syringe is needed for the purpose of freeing

FIG. 127.—WATER-SYRINGE.



a cavity of detritus accumulating from excavation. Manufacturers prepare these in great variety. One here figured answers every purpose, without being at all expensive.

Concluding the subject here considered, it is to be added that a student acts wisely who defers the employment of a dental engine and its apparatus until he has educated his fingers to accomplish ends by simple means.

Exposing the Existence of Cavities.—To distinguish the existence and peculiarities of carious cavities, dental art employs excavators, probes, silk thread, and wedges of rubber.

Cavities situated in the grinding faces of the bicuspidati and molares are discoverable to the most superficial examination, it being alone necessary to apply a sharp instrument to expose the soft character of the structure. Cavities between teeth, if at all sizable, are distinguishable by insinuation of an excavator: where superficial, the passage of the silk thread will discover enamel deficiency. Rubber wedges, or the instrument known as Jarvis's separator, placed between suspected teeth dispart the organs and admit of free exposure. A probe is useful as reference is had to a search after pin-point cavities; the instrument is to be of spring temper, and the point is to have the acuteness of a needle. Light is at all times a requisite; no better means of obtaining

this is to be found than lies in the use of the ophthalmoscopic mirror of Anagnostakis; this glass not only reflecting powerfully but extensively magnifying.*

The employment of cold water is found valuable in exposing the existence of a cavity, and as well in furnishing idea as to proximity of pulp; it is used by being thrown from a syringe over the suspected locality. The existence of cavities is to be inferred, *cæteris paribus*, where sweets or acids, hot or cold articles of diet, are found to disturb the comfort of the teeth.

* For dental purposes this glass is reduced to a circumference of six inches, with a focal point of two inches. For concentration of light-rays, and for magnifying power, this mirror shows itself everything to be desired or that is required in the direction; human incisor teeth are made to approximate those of the horse in size.

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CHAPTER XXI.

OPERATIVE DENTISTRY.

EXCAVATION, OR PREPARATION, OF CAVITY FOR FILLING.

HAVING considered the kinds of instruments used in the process of preparing a cavity for its plug, or filling, we pass to the subject itself.

First we treat of simple cavities,—*i.e.* holes more or less round, situated in the grinding faces of molar teeth. Fig. 128 shows such cavities.

Caries, as seen in the cut, varies as to the extent and character of the hole. In teeth of solid structure the orifice commonly represents the extent of circumferential involvement. On the contrary, where

tooth structure is loose and disposed to degeneration, a small orifice is not infrequently found leading to extensive underlying disorganization. To prepare such cavities for filling, an operator may use either excavator or drill; the most simple means, certainly the most expeditious, is found in the drill. Selecting a size suited to the opening,

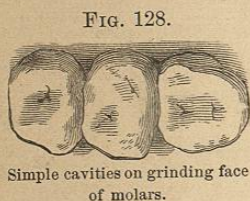


Fig. 128.
Simple cavities on grinding face of molars.

the operation consists simply in reaming out the hole, the single precaution being observed of having the common diameter of the cavity as large as the outlet; to have it a trifle larger is even better, as thus a filling is retained with greatest security.

In cases where, after breaking through the entrance, a large cavity is seen to exist, drill after drill of increasing sizes is to be employed, thus making it correspond with the cavity being made within. Or, in such cases as present a resisting enamel, the orifice is to be most conveniently enlarged through the use of a chisel. Selecting such chisel of suitable size, the operator, little by little, chips away the operculum until the circumference of the diseased dentine is exposed; this accomplished, it remains only to refer to the drill or the excavator. In using a rose drill precaution is taken to avoid involvement of discomforting heat ensuing from rapidity of rotation, which is done by careful drilling, or otherwise through the frequent dipping of the instrument in cold water, or still else by the use of a drop tube.

Fig. 129 represents cavities of a kind frequently found on the posterior face of incisor teeth. Such cavities correspond closely in their mode of preparation with those just described. A peculiarity occasionally observed

exists in the tendency of a delicate line of disease to start from the bottom of the common cavity, making its way directly toward the pulp-chamber. Where such line is found, it is neither necessary nor desirable to associate it with the first cavity otherwise than by a reaming correspondent with its own diameter: should it be found to increase greatly

in sensibility as it approaches the pulp, experience has demonstrated that it is the best plan to allow a portion of the diseased dentine to remain; harm is not apt to ensue from its presence if it be disinfected and put in a state of neutrality. Rose drills are commonly used,

to the exclusion of other instruments, in the preparation of these cavities, although the occasional convenience of the excavator is not to be denied. Great care is to be exercised in these cases, as, indeed, in all others, to have the orifice of the cavity sharply defined in its circumference; if it is strictly round so much the better, as thus the material used in filling can be made the more easily to associate harmoniously with it, such union being an absolute essential to the integrity of a plug.

FIG. 129.



Cavities on posterior face of incisors.

FIG. 130.



Cavities at neck— anterior face—of incisors.

FIG. 131.



Cavities found in the midst of imperfect enamel.

FIG. 132.



Cavities on buccal face of molars.

Fig. 130 represents what is to be described as the third class of cavities; these being very frequently met with in the position shown in the cut. A more common location, however, is on the buccal face of the molar teeth in a sulcus about midway of the face. (Fig. 132.)

When a cavity is situated as seen in the drawing (Fig. 130), part of it being overlaid by the gum, it is found most convenient to remove a portion of the carious dentine by the use of an excavator, and to stuff the hole thus secured with a cotton filling, which cotton is to be allowed to project to some little extent; this filling, as it absorbs moisture and swells, naturally throws the gum from off the roof of the cavity, thus allowing the completion of the excavation as described in previous cases. The cotton is to remain in a cavity over-night.

Fig. 131 represents a condition of imperfect enamel, in which frequently is found a number of pits: if examination, made with a sharp excavator, show the bottom of such pits to be enamel-covered, they need not be filled; if, however, the point of the instrument is found to stick, or wedge, then it is best to ream out with a spear or rose drill and plug: not to treat such cavities is to allow caries to destroy the teeth. Unless of themselves running into each

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