PALMER'S DENTAL NOTATION.

BY CORYDON PALMER, D.D.S., WARREN, OHIO.

So long ago as the year 1870, at the meeting of the American Dental Association in Nashville, I brought to the notice of the profession my system of dental notation, of which mere mention was made in the DENTAL COSMOS for October, 1870, page 523, as follows :

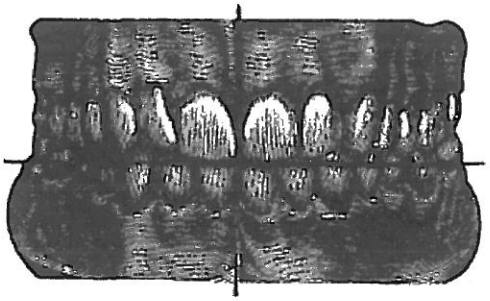
"He divided the mouth into four divisions.

"First, he exhibited a drawing of a head divided into four by a perpendicular and transverse line. This gave an upper and lower right and left division. In making a record it is well to know how to note this,—L. Sup., L. Inf., R. Sup., R. Inf. divisions.

"Second drawing gave the teeth, thirty-two in number. Commencing at central incisor, he numbers backward to eight. In this way he has the teeth of the four divisions described by numbers ;

thus, the lateral incisor is No. 2, cuspid 3, and so on to wisdom-tooth, No. 8. The teeth thus become better known by their numbers than by their names. By the shape of the mark made he knows the kind of filling, and the position on the tooth by its relative position on the number designating the tooth."

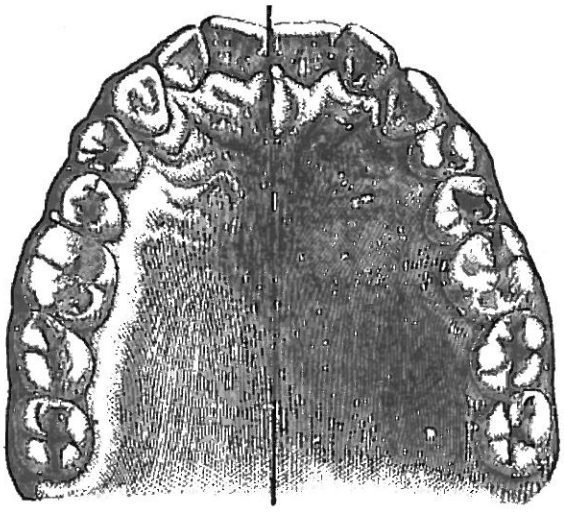
FIG. 1.



At that date illustrations were not as freely made use of in dental publications as at present, and so the models and charts which I then exhibited in explanation of my system were not reproduced in the report or in the Transactions. The following is a description of the system as then presented :

In Fig. 1 is represented the fundamental division of the oral apparatus into four parts by a horizontal and a perpendicular line, with the

FIG. 2.



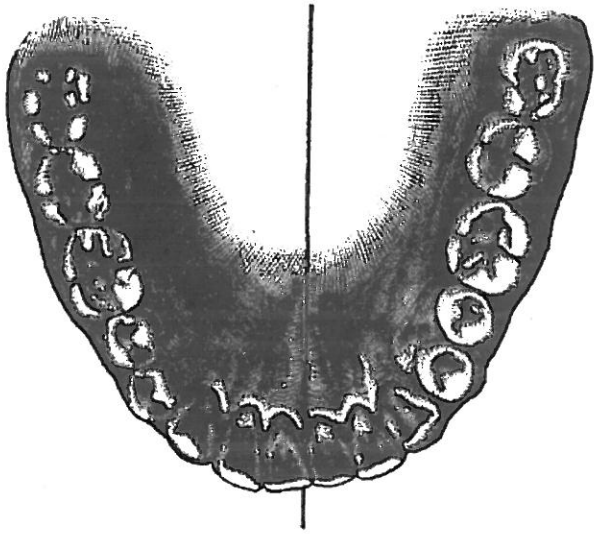
effect of graphically presenting to the mind's eye the external aspects of the several principal localities, which by means of those lines may be easily indicated in practice as Superior Right Side, Superior Left Side, Inferior Right Side, and Inferior Left Side respectively.

The corresponding interior division is represented by Figs. 2 and

3, which also show the crowns of the thirty-two teeth belonging to the normal human subject.

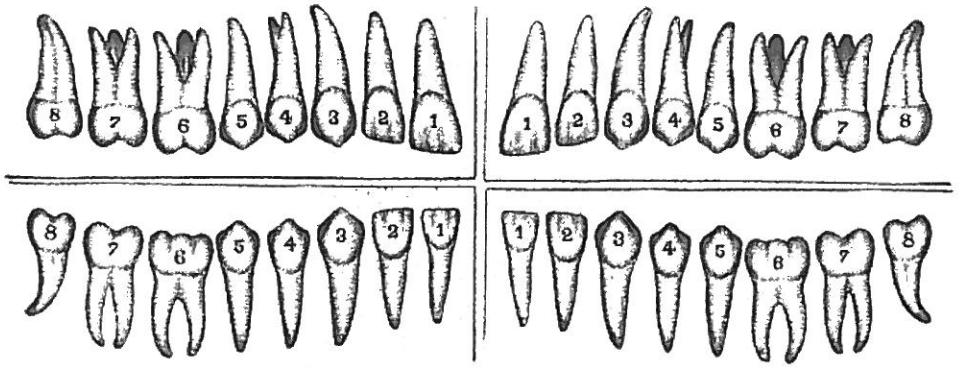
Fig. 4 presents in detail the numerical individualization of the several teeth by successive figures from 1 to 8 in each of the four indicated divisions. For precision of pictorial representation the

FIG. 3.



numbers appear upon the crowns of the individual teeth depicted, and thus the learner is enabled to readily associate each number with the so symbolized tooth.

FIG. 4.



For example, the superior right cuspid would be indicated by $\underline{3}|$; the superior left second bicuspid by $|\underline{5}$; the inferior left second molar by $\overline{7}|$; the inferior right third molar, first bicuspid, lateral, and central by $\overline{8\ 4\ 2\ 1}|$.

For recording dental operations I devised a series of symbols as follows:

A single filling ⁻, a double filling ⁼, a triple filling ⩢, a quadruple filling ⩣, a nerve operation ◭, a quarter contour filling ◺, a half-crown filling ◘, a whole crown filling ◘. These were occasionally supplemented by abbreviations, as Co. for contour, Go. for gold, No. for nerve operation, Com. No. for compound nerve operation, Am. amalgam, etc. For example, a single distal filling in a superior right central would be made a matter of record by ⁻ 1|, a double gold filling in a superior right first bicuspid by ⁼ 4|, a triple gold filling in a superior left first molar by |6 ⩢, a quadruple gold filling in an inferior right second bicuspid by ⩣ 5|, a nerve operation with a quarter contoured mesial gold filling in a superior right lateral by ◭ 2 ◿|, a half-crown gold filling in a superior left third molar by |◘ 8, a whole crown amalgam filling in a superior right second molar by 7 ◘ Am|.

After more than twenty years' practical experience with this system, I can safely affirm its easy and expeditious adaptation to the making of a condensed and reliable record of dental operations.

The publication in the November DENTAL COSMOS and in the Transactions of the last meeting of the American Dental Association of Dr. How's paper on the "Hillischer System of Dental Notation," which is substantially the same as mine, leads me to call attention to the fact that it is original with myself, and that I brought it to the notice of the profession in the most public manner possible, as the records cited sufficiently attest.

Since that date dentists have frequently told me that they were using the system with satisfaction. I also recall the circumstance that in 1873 a young German dentist was visiting New York and called upon me. Among other things of interest to him, I showed him this system, and he took careful notes as I explained to him its details. His name I do not remember, and the interview was somewhat restricted by my ignorance of German and his unfamiliarity with English, although he spoke it well enough to render intelligible our professional consultations and explanations. He made careful copies of my charts, designating numerals and symbols, and saw such illustrations of the use of the system in daily practice that nothing was lacking for a clear understanding of the notation, even by one not familiar with our language. It may well be imagined, therefore, that I should naturally be disposed to enter an earnest protest against the importation under a German name of my own system of dental notation, which I had introduced and explained to the members of the American Dental Association at Saratoga in 1869, and more specifically described and illustrated at the Nashville meeting in 1870. I have only to add that the published record makes clear my claim to

be the first to suggest a distinctively dental notation which nearly twenty years later was without credit to its author brought before the International Congress in Paris by a commission appointed to consider the subject. Their report commences as follows:

"This commission, first of all, decided that it was better to adopt a system of figures rather than one of letters to designate the various teeth. It was found that all the various systems of numbering teeth by figures might be classified into three systems:

"(*a*) The system of eight.

"(*b*) The system of sixteen.

"(*c*) The system of thirty-two.

"It was resolved that any system of numbering by thirty-two was inconvenient, confusing, and difficult to memorize. It was therefore unanimously rejected.

"The system of eight was warmly advocated. It consists of four groups of eight numerals, starting from the median line, the respective teeth of the upper or lower jaw being indicated by the position of the numerals above or below the horizontal line, and their situation relative to the median line being shown by a vertical line on the median line side of the figures.

"The alternative (Hillischer's) system, which substitutes a point or period for the vertical line, was also considered."

I respectfully submit that in justice to myself and for the credit of the profession in America the system of four groups of eight numerals should be termed The Palmer Dental Notation.

TEETH-REGULATING APPLIANCES AND RELATED DEVICES OF THIRTY ODD YEARS AGO.

BY W. STORER HOW, D.D.S., PHILADELPHIA, PA.

(Concluded from page 120.)

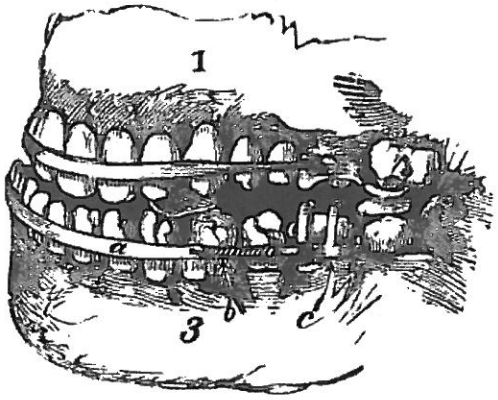
IN the *News Letter* for April, 1856, on page 184, Dr. J. D. White supplies illustrations here referred to as Figs. 14, 15, 16, and 17, which he describes as follows:

"Fig. 1 (Fig. 14) is the case viewed from the left side; the first superior bicuspid, canine, lateral incisor, and both front incisors falling inside of the lower teeth, which gives a lateral and forward projection to the chin and a peculiar warp to the face.

"Fig. 2 (Fig. 15) is the apparatus for the upper jaw; it consists of a plate swedged up to fit the roof of the mouth, and extending forward against the back part of the front teeth, in the same manner as if it were intended to insert teeth upon. It has attached to it, on the left side, an inclined plane, opposite the superior canine and lateral

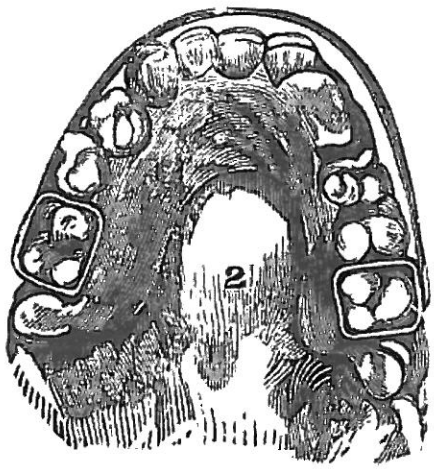
incisor, extending outward and downward, to grasp the inferior canine and bicuspid. This answers the double purpose of helping to throw the upper teeth out and the lower ones in, and the lower jaw to the right. It also keeps the jaws apart sufficiently to allow of the teeth, when they are moved, of passing each other. The bands are so

FIG. 14.



constructed as to grasp over the crowns of the molar teeth in such a way as not to require filing. To the buccal sides of these bands are soldered a bar extending from side to side, and as far away from the front teeth as it is desired for them to be brought forward. To this bar, and around the necks of the teeth, ligatures are well fastened, either of India-rubber or flaxen thread. This apparatus must be

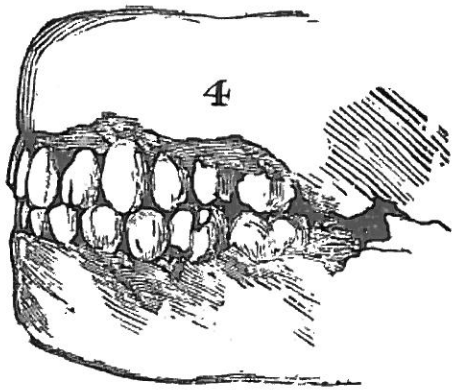
FIG. 15.



changed every other day, and the teeth well brushed to remove all foreign substances. There are also attached to this plate caps for the back teeth, to prevent them from falling toward the opposite jaw while the apparatus is worn. This fixture was worn about one week before anything was done to the lower jaw, when a simple bar

and caps were placed upon it, as seen in Fig. 3 (Fig. 14); *a* is the bar in front of the teeth; *b*, a spiral spring at one extremity, to give elasticity to the bar when placed over the front teeth; *c*, the bands over the second molar teeth, with caps extending over the wisdom-teeth in the same manner as the upper caps, to prevent them

FIG. 16.



from rising from their sockets. This spiral spring has within it a piece of wire to prevent it from bending laterally, but it does not prevent the extensibility of the spring." (See Fig. 6.)

"Fig. 4 (Fig. 16) represents the operation completed, which occupied about five weeks; at this time the apparatus was removed, and

FIG. 17.

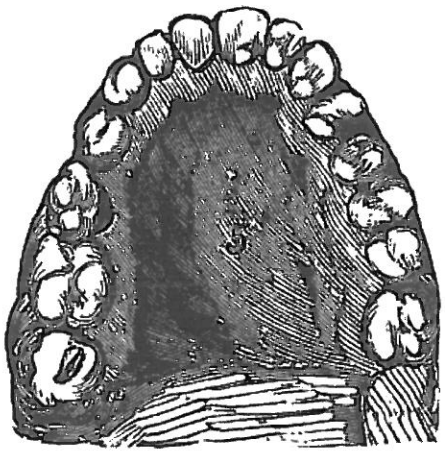
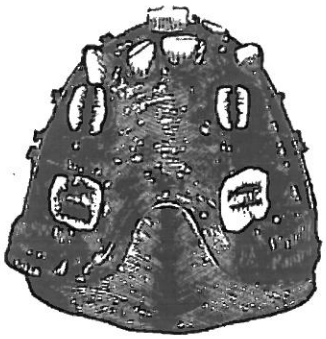


FIG. 18.



a plate, Fig. 5 (Fig. 17) swedged up to fit the roof of the mouth, and touch the necks of all the front teeth, so as to prevent them from falling back to their former places. This may be worn for a long time, together with lower spring, to insure success."

Earlier dates may possibly be found for some of the specified

devices, but they suffice here and now to establish beyond question the facts that they were well known at the times mentioned. Harris, in his "Principles and Practice," sixth edition, 1855, on page 156 says a tooth may be rotated ". . . by accurately fitting a *gold ring or band* with knobs on the anterior and posterior edges; to each of these a ligature should be attached. The ligatures thus fastened to the *ring* should be carried back one on either side in front and behind the arch, and secured to the bicuspids in the manner as represented in Fig. 52, so as to act constantly upon the irregular tooth." This is another instance going to prove that knobbed or tubed rings completely surrounding, fitting, and conforming to the crowns of natural teeth in the mouth were common. On the next page, 157, Fig. 54 (Fig. 18) shows completely capped single teeth, to which caps a bar or bow-spring and also a plate are fixed. On page 166, referring to Fig. 68 (Fig. 19), he says ". . . a gold plate of the ordinary

FIG. 19.

thickness should be swaged to fit the first and second molar on each side of the jaw, so as completely to encase these teeth. If these *caps* on applying them to the teeth in the mouth should not be found thick enough to prevent the front teeth from coming together, a piece of gold plate may be soldered on that part of each which covers the grinding-surfaces of the teeth, and having proceeded thus far a small gold knob should be soldered on each side of each cap, to which a ligature of silk or gum elastic should be attached."

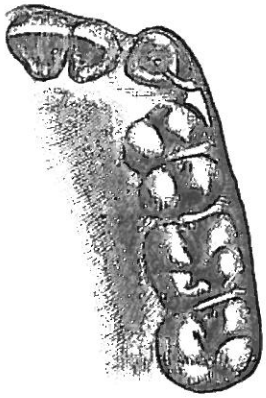
He next describes and shows in Fig. 69 an arched regulating bar soldered at each end to the caps which entirely and rigidly support the bar in proximity to the lingual surfaces of the lower oral teeth, so that the soldering of artificial substitutes to such a bar would have been an obvious procedure to any dentist who would note the firmness and security of such a fixture when in position for regulating purposes. If he had been accustomed to the use of dental plastics, the cementing of those close-fitting gold cap crowns onto sound or carious teeth would then have naturally occurred to him, as it subsequently did to Drs. Wood, Morrison, Francis, and others.

Many other well-known old devices described without illustration might with advantage to the profession be given pictorial embodiment as in the preceding new cuts, but these old cuts in their unquestionably clear anticipation of later devices relating to dental regulation, crown- and bridge-work, will certainly prove serviceable, and are respectfully submitted to whom it may concern.

The devices which follow are some old and some new, but all embody the ancient principle of a spring-push or pull on the tooth or teeth to be moved. A simple form of finger-spring is that shown in Fig. 20. It is made by first cutting a pattern from thin rolled block-tin and fitting it to a plaster cast of the teeth, although in some instances I have fitted it over the teeth in the mouth. From a piece of spring gold plate the regulator is then cut, closely following the pattern. In some instances it is desirable to get a close conforming fit by striking

FIG. 20.

FIG. 21.



it on a metal die made from the cast. It is obvious from Fig. 21 that successive bendings of the spring finger will soon bring into line and place the errant cuspid, and as during and after the moving of the tooth the regulator may be readily sprung off and on by the patient for cleansing purposes, it is also the fact that it serves as a retaining device which can be worn for any prescribed length of time.

A forthpushing finger-spring of like character is illustrated by Fig. 22, both detached and in action after several days' use, and is to be followed by a device like Fig. 20, to complete the operation.

A modified Evans-Jackson crib finger-spring, made of piano-wire, is shown by Fig. 23. It will be noticed that I have added to the crib wire some neck-pieces of wire which is only .035 of an inch thick, and which is not shown of proportionate size in the cut. After securing a good plaster cast, a very fine burnisher point is used to scrape a little channel around the necks of the plaster teeth to correspond to the free cervical margin of the gum. Then short sections of the fine wire are

bent to lie close in the little channels. The crib-wire is then suitably shaped and wired, or clamped to the cast close down upon the neck-wires, to which the crib is secured by a small soldering-iron. The approximate result is shown in Fig. 23, which is seen in action in Fig. 24. The spring of the crib causes the neck-wires to hug the teeth closely, and the fixture is thus firmly retained.

FIG. 22.

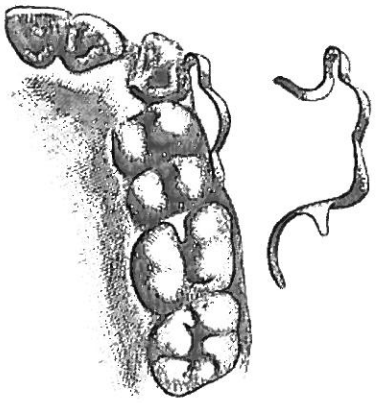
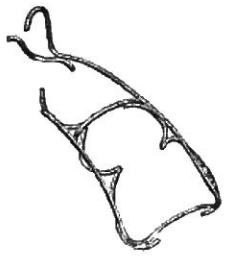


FIG. 23.



A crib and collar with a pulling spiral spring is shown by Fig. 25.

A spring-jack for push or pull action is readily made from suitable half-round wire, or by filing to half-round shape two pieces of pretty thick wire, as shown in Fig. 26. A spiral coil of fine spring-wire will

FIG. 24.

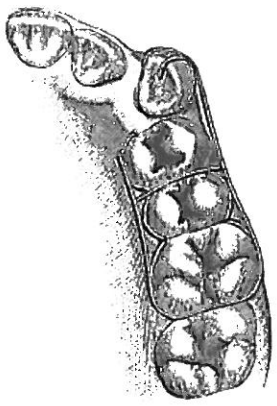
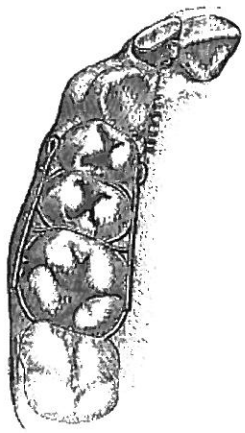


FIG. 25.



then serve as a socket for the two half-round wires, and by simply touching the point of the soldering-iron to the ends of the spring they will be soldered to the thick wire, and the jack be ready for action. To increase the push power, it is only necessary to pull open the spring slightly. Attached to collars as shown in Fig. 27, it will either push or pull as desired, adjustment of spring tension being easily

effected by a touch of the soldering-iron ; and as the springs are readily made, and kept at hand, a long or short spring can be quickly put in place. In Fig. 28, little sliding collars, such as is shown separately at A, will enable adjustments of tension to be made while the fixture is in place.

FIG. 26.

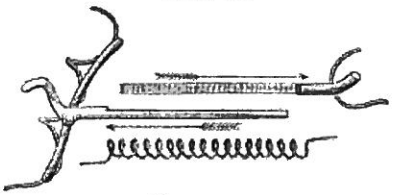


FIG. 27.

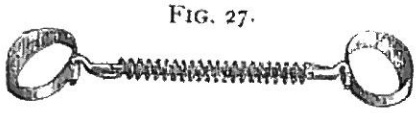


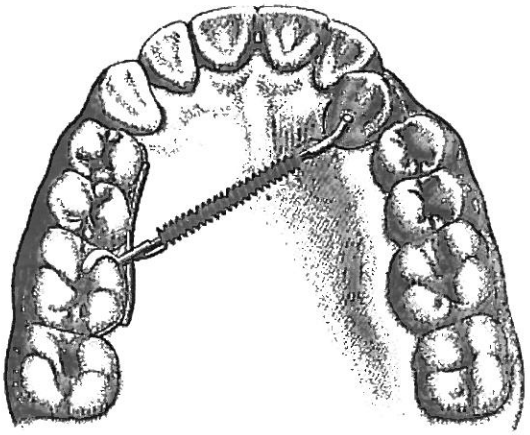
FIG. 28.

A

It will be observed by recurring to Fig. 26 that when the two halves of the jack are inclosed within the spring, they are firmly prevented from rotation by the contact of their flattened sides, but are free to slide forth and back as indicated by the arrows.

In Fig. 29 the device is shown in action as a pushing-jack, and the

FIG. 29.



peculiar adaptation of the neck-wires for simple security of impingement without disturbance of the gum-margins is apparent. For greater security ligatures are, of course applicable, and can be added without difficulty.

These spring-jacks can be made very small and short, and are

therefore readily adaptable to clasps, and cribs, and plates of every kind; they can even be curved so as to act upon an arc of a circle.

With regard to the construction of regulating fixtures, the writer has at hand for future presentation some simple means and appliances which it is believed will prove practically useful.