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THIRD VOLUME.

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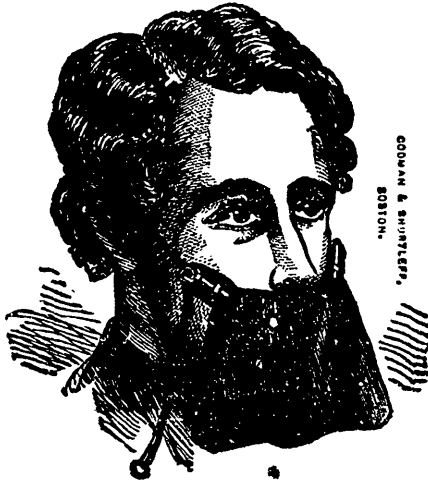
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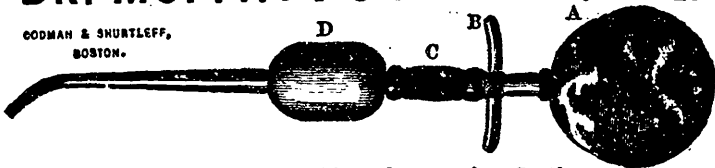
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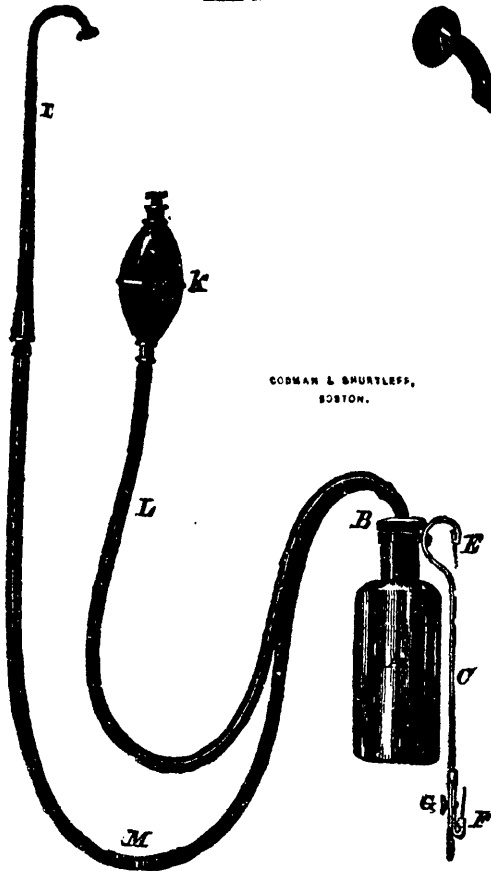
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ORIGINAL COMMUNICATIONS

—
AMALGAM EXPERIMENTS.

BY S. P. CUTLER, M.D., D.D.S., New Orleans.

I took of good amalgam twenty-four grains and mixed with mercury, usual way, and expressed through buckskin to the proper dryness, then washed in alcohol and weighed. Thirteen grains of mercury had been retained. After two weeks, I weighed again and found a loss of two grains, the whole weighing thirty-five grains, a little less than half as much mercury as of silver and tin. The small amount of evaporation of mercury in thirty-five grains of amalgam is so insignificant, that no possible harm could take place by the use of even that amount at one sitting, which would be sufficient to fill several quite large cavities, though in some extreme cases double the amount or more may be used in one tooth, even then no danger of salivation need be apprehended in any subject.

By applying heat with the blow pipe the dry lump became soft and plastic, as when first mixed, only a little more brittle.

The chemical affinity between the mercury, tin, and silver, is very strong and not easily broken up, and is known as the law of adhesive affinity or that of wetting, which is explained in this way: Any liquid whose affinity or cohesion is greater for any solid than the cohesive attraction of its own molecules, a perfect solution or saturation takes place.

Again, any liquid whose affinity or cohesion for any solid is more than half what it is among its own molecules, simply wetting takes place, nothing more.

Any liquid whose affinity for a solid is less than one-half what it is among its own molecules no wetting takes place at all, as mercury and glass, porcelain, and many other solids, as mercury and bone or dentine demand. The reason why water and oil or mercury do not unite

depends on this same law. The word adhesion and cohesion may both be used in the above explanation. This specimen softened by heat, and gave up the mercury, though rather explosively, so that I could not ascertain the final result by the blow pipe. In fact, this is a feeble fulminate.

Pure silver amalgam.

Twenty four grains of pure silver filings combined with 28 grs. of mercury when expressed through buckskin as in ordinary use of amalgam in filling teeth. It will be seen that pure silver requires more than double the amount of mercury to amalgamate it than ordinary tin and silver combined.

Pure silver does not make a tough and tenacious mass, only slightly adherent. Washing with alcohol does not produce any dark color as in ordinary amalgams.

No loss or subsequent hardening takes place by standing for six days, weather hot. On applying heat with the blow pipe, light colored fumes began to pass off and continued to escape frequently in sudden gusts, and continued up to a red heat, at which temperature I kept it for a few minutes until all fumes ceased. It did not become soft and plastic at all, like ordinary amalgam, but remained hard during the process, becoming light yellow, and did not lose any of its cohesive properties by heating. There was a loss of twenty-four grains out of the twenty-eight of mercury.

Amalgam of pure tin filings.

Twenty-four grains of pure tin filings took up fourteen grains of mercury, forming a mass in all respects similar to ordinary amalgam: did not lose in weight by standing several days. Washing with alcohol produced about the same amount of dark matter as common amalgam. There was no subsequent hardening from the first melting on charcoal, for fifteen minutes caused no loss in weight, no fumes escaped. After cooling, the mass was found to be quite hard and tough, polished well, and pure white.

The probability is that this amalgam would not harden sufficiently in the tooth to make a good filling.

Silver coin amalgam, or amalgam of olden time.

Twenty-four grains of coin filings, takes up thirty-two grains of mercury to amalgamate. After several days' standing I found the mass hard and firm, had lost scarcely a grain in weight. On applying heat it did not become at all plastic, but remained hard. I continued the heat up to redness, for at least twenty minutes before the mercury fumes ceased passing off; on weighing, I found nearly all the mercury had

escaped; the lump still remained hard and firm though brittle than before applying heat.

Now the question is what holds the filings together, when all but a trace of the mercury has been dispelled by heat. Washing with alcohol produced dark matter.

PURE GOLD AMALGAM.

Twenty-four grains of pure gold filings takes up fifteen grains of mercury to amalgamate. It instantly becomes white like pure silver amalgam; on standing several days there was no loss in weight, neither did it set or harden to any extent, in consequence it will not answer for filling teeth. There was no stain from washing. On applying heat with the blow pipe, up to redness, for five minutes, it became yellow and lost all the mercury and two grains more. The filings were not melted, and the mass much tougher than before heating. On melting the gold there was no more loss of weight, the gold apparently as pure, and worked as well as though there had never been any mercury in combination.

This amalgam would be a desideratum in practice if it could be made to harden in any way.

EIGHTEEN CARAT GOLD AMALGAM.

Twenty-four grains of eighteen carat gold *silver alloy* takes up twenty grains of mercury to amalgamate. It does not become so instantaneously white as pure gold, neither was the white so intense.

On washing with alcohol there was scarcely any stain. After several days drying there was no loss by evaporation, the mass becoming quite hard and brittle. This amalgam will answer a very good purpose in some cases for filling teeth. I have had a filling of this kind in one of my back teeth, five or six years, now perfectly sound, only dark on the surface owing to the silver it contains.

On applying heat to the specimen, and raising up to redness for five minutes, all the weight of mercury disappeared still leaving a hard firm mass, which takes a fine polish and has a golden colour.

AMALGAM OF CADMIUM.

Twenty-four grains of cadmium filings amalgamate with forty-two grains of mercury, and sets or hardens almost instantaneously if quite dry, even without squeezing through buck skin. On rubbing in the palm of the hand the the finger becomes black, and on washing with alcohol about the same amount of dark matter is produced as in comon amalgam.

On drying for several days it loses nothing in weight.

While rubbing up in the palm of the hand a considerable amount of

heat is developed, I presume, from the rapid conversion of the liquid mercury into a solid, the latent force of the fluid mercury being transformed into sensible heat.

This amalgam is almost certain to destroy the nerves in all teeth filled with it, turning the tooth yellow and staining all the balance at the line of the gum the same color. This yellow stain is the result of a yellow soluble oxide, the fillings remaining white owing to the solubility of the oxide.

The specimen lost one grain after several days drying. On melting on charcoal it does not evaporize or loose in weight, and melts at a very low heat, and remains fluid a long time and retains the white color.

After being melted it is very tough and may be hammered or rolled into a plate, and cuts easily with a knife. This amalgam may be found valuable for some purposes out of the month.

There are some dentists still using this amalgam to my knowledge for filling teeth. It should never be used in the mouth under any circumstances.

By heating cadmium sufficiently hot, yellow vapors of the oxide of the metal are formed. Mercury unites readily and hardens with this metal, but does not harden to any extent when united with any of the other simple metals experimented with. Why this is so, I am unable to say, unless it is from the fact that mercury and cadmium are the only two metals whose combining volumns of vapor are double that of any other elementary bodies. All good amalgams must be composed of at least two metals besides mercury. None of the above metals decompose water to any extent under ordinary circumstances.

I experimented with platinum and mercury, also aluminum and mercury, but found that neither of them formed metallic amalgams with mercury, only oxides of which I shall have occasion to speak sometime, under another head, more especially that of aluminum. This metal is one of the most selfish and unfriendly of all known metals, refusing to unite or form any metallic alliance with any other metal. This is a great and wise provision in nature's economy, this metal forming as it does the basis of most soils; the earth would be but a barren waste if this metal held strong affinities for other metals; when the earth was in a melted state alloys would have been formed without end so as to have prevented its capacity for uniting with oxygen to form clays.

The metals suitable for amalgams are reduced down to three, silver, gold, and tin, mercury forming the amalgamating metal. Tin and silver make the best, silver and gold answer very well, gold and tin is too brittle and hard for practical purposes it does not harden at all when

amalgamated; none of the other metals will answer as they would not stand in the mouth.

ESSENTIAL PRINCIPLES IN FILLING TEETH.

BY DR. R. C. MOWBRAY, DENVER, COLORADO.

Read before the Illinois State Dental Society.

The fact that a large per cent. of fillings, from the hands of the average talent of our profession, fail to effectually preserve teeth, forces the fact upon us that the "essential principles in filling teeth" are not as generally known, and not in constant practice, as they should be.

The "principles" presented in this paper, are those whose observance are obviously necessary to success. It is familiarly stated "no two operators operate alike;" yet, if principles *were understood*, I am confident there would be more uniformity in operating, and greater success as to the result.

For the better consideration of our subject, we divide it into, first, principles to be observed in the preparation of cavities, and, second, principles for filling properly prepared cavities.

PREPARATION OF CAVITIES.

1. Have well formed instruments, nicely tempered and sharp. From the unadaptability of instruments not unfrequently decay in a remote portion of the cavity is not removed; or, if removed, it is by the exhaustion of an unnecessary amount of time. If an instrument is poorly tempered it cannot retain an edge; hence, it annoys the operator and gives the patient unnecessary pain.

2. All decay should be removed from a cavity previous to filling. Of late some operators of fair reputation, have ventured to leave a portion of decay in cavities that nearly or quite approach the pulp, in teeth where a calcareous degeneration has removed a large per cent. of lime salts, and a gelatinous dentine (if I may be allowed the term) presents itself. Subsequent loss of the tooth is the general result. It must be distinctly understood, the slightest decay cannot be tolerated. I admit with candour that soft and partially disintegrated dentine over the pulp may occasionally be permitted to remain, but more teeth have been lost than saved by this treatment.

All decay should be removed from deviating crevices and undercuts. Crevices and undercuts are the secret homes of vibriones, the protocooccus dentalis of Schrott, the parasitic fungi which "suck out and destroy the structure, at whose expense they increase and multiply." It would seem these fungus parasites cling to the crevices and undercuts with great

tenacity. Histology presents no good reason for hypersensitiveness in these parts. Schrott observes, "the principal cause of the destruction of teeth must be a parasitic luxuriant vegetable growth." I think the primary cause may be electrolysis. The prize essay that nine years ago gained the Tomes gold medal of the Odontological Society of Great Britain was founded on the destruction of tooth substance by electricity. Subsequent investigations seemed to corroborate the theory.

If electrolysis or fungi is the primary cause, there can be no doubt that parasitic fungi are the worst enemies of the human teeth; and as they flourish in concealed places, it is obvious this important principle should be strictly observed, and decay should be effectually removed from undercuts and crevices.

4. Every angle should be cut out and the part made concave. The fact that when filled teeth fracture the fracture starts from an angle or from a V inequality of the enamel is sufficient reason for the strict observance of this rule.

5. In the formation of cavities for the permanent retention of fillings, all frail walls must be cut away. This rule applies invariably to the molars and bicuspid, but not to the labial, enamel walls of the superior incisors, canines and first bicuspid. This rule of course does not apply to the labial surfaces of the incisors, canines and bicuspid, but to the palatal walls of all teeth. If both labial and palatal walls are about the same strength, remove the palatal walls always; preserve the labial wall, and gain seclusion of the filling from sight. All frail walls in molars should be cut away. Molars practically do the masticating, and frail walls invariably break away.

6. Easy access to every part of the cavity should be obtained; so that the cavity can be thoroughly cleaned and properly filled. Hundreds of dentists fail in a large per cent. of their operations because they disregard this principle; they work in a cramped place and they are ashamed of their work when they have it completed, because it is generally imperfect. Perfect work cannot be done without room. You need not be heroic and destroy too much tooth substance, but use good judgment, and have suitable room to properly manipulate.

7. Every inequality in a cavity should be made concave. This is essential to facilitate the perfect adaptation of a filling.

8. In crowded maxillæ the file should always be used in separating teeth prior to filling proximal cavities. The wedge is good in its place, but should rarely or never be used in a crowded maxilla. The file gives the desired room, and causes much less pain, while a desirable space can seldom be obtained by wedging in such cases; and the space is imperatively necessary for the proper insertion of such fillings.

9. The margins of all cavities should be slightly beveled, or, convexed. This is necessary to properly finish a filling as well as to facilitate filling.

10. In preparing a cavity for filling with adhesive gold, a retaining point or slot should be invariably cut, to securely retain the foundation of the filling. Do not forget this, and waste half-an-hour fatiguing your patient, wasting your gold, losing your temper, and proving yourself anything but a master in your profession, by your frequent failures to "start the filling." A suitable retaining point in the proper part of a cavity will not weaken the tooth, but will be of great advantage in making a better filling than can be made without it, and in less time. We will now consider

PRINCIPLES FOR FILLING TEETH.

1. Suitable instruments for the cavity, and the points in proper order. It is about as useless for a dentist to try to extract a tooth with a pick-axe handle, as to attempt to fill a tooth *properly* by unadapted instruments. The best operators use few instruments. The longer a dentist is in active practice the more he is convinced there is no necessity for a large number of instruments. Have few instruments; good forms; well serrated and nicely tempered. Examine your plugger serrations with a common microscope. If one point leans to the right, and another to the left, while a third is straight, it is obvious that such a plugger would destroy any filling. In using such a plugger you can feel it hang back as you attempt to remove it after condensing a piece of gold. Have the points in good order. To tell you what points to use in different cavities can be demonstrated, but cannot be written.

2. Invariably securely fasten the first piece of gold. I am not in favor of any system of filling teeth that *blocks* the first piece of gold. It is obvious small concavities in every cavity must remain unfilled by such a method. Do not blind yourself by blocking a huge cylinder or block into a cavity. Go to work systematically, and see what you are doing, and *know* your filling is *perfect*.

3. Invariably weld each additional piece of gold. This is very easily done. In order to do it, however, care is necessary to keep the filling from moisture. Spunk and the rubber dam make this a comparatively easy matter. The discoverer of the "rubber dam," deserves much credit for his discovery, and the man, whoever he may be, who has enabled us to face wet mouths with spunk, to my mind, deserves as much.

4. In all cavities keep the margins higher than the centre of the filling until completed. This has a double object. In approximal cavities it is impossible, and in all other cavities difficult, to properly fill neat

the margins *after the centre of the filling is completed*, and by filling the centre of the cavity lastly, if the filling can be condensed at all, it is laterally, making a tighter filling.

5. Make the filling as dense as the structure and condition of the tooth will admit. In other words do not attempt to make a filling on the proximal surface of an incisor, as solid as you can possible make it; *it is unnecessary*. Exercise good judgment; put such a filling in the crown of a molar, where it is needed. Many an incisor, that otherwise was a beautiful tooth, has been cracked by such stupidity, and the frequent result is subsequent loss of a portion of the tooth that cracks off, and generally the loss of the filling. If ever good judgment was called for, it is on this point, and it is singular the subject has attracted little or no attention.

6. Finish the filling smoothly, even with the margins. Because diamonds are found uncut, and native gold is unburnished, it is no reason art should imitate nature, and leave a filling just as rough as possible.

Nicely finished fillings are certainly conducive to the better preservation of the teeth, and should your patient exhibit your work, it would bear upon its face evidence of your skill and good taste.

Thus I have briefly commented upon the principles of filling teeth. The principles apply alike to filling with any material, although I have confined my remarks to gold filling. I am conscious much more can be said which has been omitted, and part I have said is open to debate. I regret I am unable to be present with you. I invite free and critical debate upon my paper, and request you to spare neither the paper or its author, that the profession may be edified and the "essential principles of filling teeth" better understood.

FANG FILLING AND CAPPING PULPS.

By A. C. STONE, M.D., L.D.S., London, Ontario.

As a great variety of substances are used for the purpose of fang filling and capping nerves, and numerous modes of treatment are recommended, a little more light on the subject will do no harm, as we all have our pet method of practice in these cases. I will simply say what mine is and my reasons for following it. We will premise that we have the fangs and pulp cavity perfectly free from all dead nerve and decay, and in good condition for filling: place on a piece of glass a quantity of asbestos, and saturate it with creosote or carbolic acid; dry the fangs and pulp cavity then with a whalebone or other plugger; fill the fangs and about half of

the pulp cavity with the prepared asbestos; a long pellet of gold is then introduced into the tooth and pressed into the pulp cavity, acting as a force pump to push the asbestos and creosote into the fangs, following the first pellet with other large ones, until the pulp cavity is full.

Asbestos is a mineral of the tale family, incombustible and indestructible, and will retain the creosote much longer than cotton or silk. Cotton, if left in the fang after the creosote has evaporated or been absorbed, will, if any moisture reaches it from the apex of the fang, decompose like any other vegetable substance and produce gases that must find vent some way or other. We are often obliged (more particularly in country practice) to fill teeth affected with alveolar abscess without any chance of previous treatment. I find, in many cases of this kind, that, after cleaning out and enlarging the nerve canals and filling with asbestos and creosote, that the teeth remain useful for many years, and in some instances are entirely restored to health. One tooth saved is worth ten artificial ones inserted. There is no good reason why one copious supply of creosote, applied to the root canals and hermetically sealed there, should not produce the same effects as a dozen ones that are exposed to the triturating action of the saliva. The asbestos absorbs and carries with it into the roots a large quantity of creosote, which is gradually given off to the fangs. So much for fang filling.

I now come to the capping of exposed, or nearly exposed, nerves. After excavating and removing all decay, I drill retaining points on each side of the nerve; I place, with the point of an instrument, a sufficient quantity of asbestos and creosote over the exposed nerve; I then pack gold in all the retaining points around the nerve; then, with a large piece of heavy foil folded so as to represent No. 160, placed so that its outer edges shall cover all the retaining points to which it must be packed, taking care not to press on the centre over the nerve until two or more pieces similar to the first are securely packed around the edges, then, with a large plugger, press the center upon the asbestos; the cap or bridge will then be strong enough to bear all subsequent pressure required in filling the rest of the cavity.

The asbestos is a perfect non-conductor, and the creosote has not that irritating effect that the oxychloride of zinc has upon the nerve and its surroundings.

DIAGNOSING TUMOURS OF THE ANTRUM.

BY CHARLES A. MONDELET, L.D.S., OTTAWA.

An anatomical examination of the antrum of Highmore presents different degrees of thickness in its walls; tumours project one or another

of these weaker surfaces. Thus, often the first intimation of a tumour is a scarcely noticeable loss of symmetry in the part.

The thinnest wall or surface of the antrum is found commonly immediately over the canine fossa, and deserves, for this reason, a first examination. If a tumour exists this part will generally be found projected, and which projection, as the tumour enlarges, grows more and more plain. If, however, this point seems normal, let attention be directed to the second weak wall—the floor of the orbit. This may be found projected; if so, the eye will stand more prominent than its fellows. The third weak surface is the wall of the nasal fossa. The fourth, what might be termed its pharyngeal surface. If a careful examination of these four points discovers no unnatural features, it may be premised that no tumour exists, at least, in a very advanced stage of development.

PREVENTION OF ACCIDENTS FROM EXPLODING VULCANIZERS AND RETORTS.

BY W. SAUNDERS, D.D.S., New York.

Reading frequently of accidents resulting to dentists and their assistants, from the bursting of the glass retorts used in boiling nitrate of ammonia, it occurred to me that probably some might not have thought of a very simple plan I first adopted with my vulcanizers and then used for my ammonia flasks. The explosion of a Whitney vulcanizer, and the indiscriminate scattering of its contents around my head, suggested to me, ten years ago, a simple four-sided box of cast iron, quarter of an inch thick, open at the top, and the four pieces riveted together, though not closely, by bands of iron. This is fastened to my bench, and if another similar explosion does occur, I know the ceiling will suffer, but I trust my body will escape.

Now, the very first time I used the gas, I burst a retort and burned my hand, and made a mess of my ammonia, which ran over the floor. I didn't boil a second time until I had erected a three-sided box, similar to that used in England, made of wood, lined with tin or zinc, and having a good thick porcelain dish at the bottom to catch the ammonia if the retort should burst. The lower half of the open side has a door which closes and keeps a passing draft of air from the flame of the lamp, and does not prevent you watching the process of boiling and regulating the flame.

Retorts are broken by generating the gas too quick, and causing a greater condensation than the frail glass can stand. Also by passing suddenly, opening a door, perhaps, up or down stairs, which sends a current of air into the laboratory; but I think too rapid generation of gas is the most common cause.

PROCEEDINGS OF DENTAL SOCIETIES.

DENTAL ASSOCIATION OF THE PROVINCE OF QUEBEC.

A large meeting of the Licentiates of the Province of Quebec, incorporated under the above name, was held in Montreal, at the Mechanics' Hall, on Tuesday, 19th September, to elect a new Board of Examiners, &c.

The following were elected the board for the next two years: A. Bernard, W. G. Beers, C. Brewster, J. McKee, H. D. Ross, J. H. Webster, T. A. Venner, L. J. B. Leblanc, P. Baillargeon, J. A. Bazin, C. F. F. Trestler.

The Report of the Secretary was read. In the unavoidable absence of the Treasurer, it was decided that a printed sheet be furnished to each Licentiate, showing the state of the funds.

The following motion was carried unanimously. Moved by J. H. Webster, seconded by L. Globensky, "That the Board be requested to take such measures for abolishing Dental show cases, and all such unprofessional signs as it may deem fit." Dr. Webster explained that in a branch office of his, conducted by Mr. Nichols, he was compelled in self-defence to make use of the show-case, as a neighboring Dentist used one; that he had tried the experiment of doing without one, and found many of his patients made a mistake and got into the wrong office; and that he deeply regretted the degradation of having such a semblance of quackery at his door. At his own office he did not use it, and would gladly welcome any action to put a stop to them. He thought the Board had power to do it. Other members who used them stated that they had offered to withdraw them, but the party referred to by Dr. Webster had broken his promise. It was decided to take action at the next Board meeting.

It was decided by unanimous vote to petition for certain amendments to the act of Incorporation, to provide for a reduction in the number of the board to seven members; for but one meeting a year; for power to grant the degree of doctor of Dental Surgery to *Licentiates* who produce certified tickets of attendance on at least one full course of Anatomy, Physiology, and Chemistry in a recognized Medical school, or one full course in any recognized dental college, and upon passing a special examination in theoretical and practical dentistry; also for the repeal of the clause exempting graduates of Dental colleges from the provisions of the Act; the said exemption not having been inserted as the wish of the profession, but introduced after the bill went to the Legislature. While this clause has been prejudicial to the influence of the Board, and unfair

towards those who have obtained their license, it also debars the graduates from a voice in the election of the Board, and from actual fellowship; although they have the privilege of obtaining the License on payment of the fee.

An application is to be made also, to exempt Licentiates from service on Juries, and to grant them compensation for loss of time occasioned by their retention as witnesses, and to confer on them all the rights and privileges conferred upon physicians.

After an able address from the President, Dr. Bernard, the meeting adjourned.

BOARD OF TRUSTEES AND EXAMINERS, PROVINCE OF QUEBEC.

A meeting of the newly-elected Board was held immediately after the close of the meeting of Licentiates, and the following were elected office-bearers:

A. Bernard, President; W. G. Beers, Secretary; C. Brewster, Treasurer; L. J. B. Leblanc, Registrar.

It was resolved to hold the next meeting for examinations, &c., in Quebec city in November.

SELECTED ARTICLES.

DENTISTRY vs. MONEY

BY R. S. WELLS.

Read before the Wisconsin State Dental Society, July 12, 1871.

That "self protection is the first law of our being," is the universal voice of reason, and "if any provide not for his own, and especially for those of his own house, he hath denied the faith, and is worse than an infidel," is the word of inspiration, each agreeing to the same truth.

To provide for professional wants, and to protect our mutual interests, is the object of our gathering in associate capacity to-day.

I have chosen my theme, "Dentistry vs. Money," or "Values in Dentistry," for the following reason:

Subjects pertaining to the *acquisition* of professional knowledge and skill, are the themes almost exclusively dwelt upon by our writers and public teachers.

I would not underrate these themes, for it is of the first importance that we *have* skill and knowledge, but it is essential also, that we know how to *use* them. A defective bolt may destroy the efficiency of the most per-

fect engine, and so may a misconception of business principles applied to skill and knowledge, render them unproductive of pecuniary reward.

In adopting this, our chosen calling, without doubt, the monetary idea was the principle one with us all, then why pass it by in our public deliberations, with such silent indifference, while in our private meditations, it claims so large a share of our thoughts.

Yankees worship success, and especially devout are they, at the golden shrine of pecuniary success. "The surest way to be a success, is to succeed," say they. Morals in *methods* are ignored. Let us not fall in with this pernicious doctrine, but use only right and honorable means of advancing our prosperity.

When I see a pecuniarily successful dentist, I want to "button-hole" and learn from him the secret of it

We are in the habit of hearing this statement in answer to our inquiries on this point: "The skillful will *always* succeed. But the question arises, How about opportunity?"

If they mean by skill, ability to take advantage of circumstances, or to make opportunity, I grant it, for it is the secret of all success.

"Fortune is a lazy goddess,
She will never come to you."

But if they mean mere professional knowledge and skill, I deny it, for it is well known, that the amount of money a man may have is not always in the ratio of his ability. Circumstances may favor one and not another. Look, for illustration, at Goodyear and Bacon. The former had inventive talents of the highest order, which is producing a rich pecuniary harvest; but he sowed, while Josiah reaps, and we are his golden sheaves.

A merchant with sufficient capital and ability, to buy advantageously, and sell cheaply, and with a good market—the main conditions of success—may utterly fail, because he neglects other conditions, minor in themselves, in not securing a good location for trade, or in not advertising properly.

I do not counsel greater greed for gain, but better methods for obtaining it.

There are certain conditions to be met in all kinds of business, and a proper understanding of those pertaining to our specialty, is of interest to us all.

All legitimate and honorable business is founded on the principle of reciprocity, or value returned for value received.

A man must have an article of value to exchange for other values, and then must find or *make* a market for it to succeed. I say make a market,

for to create a demand for his article may require business skill of the highest order ; but this will be considered more fully under the head of advertising.

What is value ? " Value consists in use."

Says an eminent writer on National Economy, " It is that property or those properties which render anything useful. They are valuable because they are useful. A reaper is valuable for its useful qualities, The same is true of ornaments, they are valuable because they are useful for ornamental purposes." The same is true of knowledge, it is valuable because it is useful to alleviate suffering, shield us from danger, and add to our happiness.

So of everything necessary to the support and comfort of man. They are valuable because of their useful qualities.

Now, what have we of value to exchange for money ? The first thing I will mention is

SKILL.

When your skill puts into a person's mouth a thing of beauty, more valuable for ornamentation than the costliest diamond, that rejuvenates the fading charms of the waning beauty more than the most costly toilet, that removes facial deformity as no other art however costly, or surgical device however expensive can, that gives more gustatory pleasure than the most luxurious viands that adds to the length of the days of the invalid, by aiding nature in her work of digestion, as nothing else does, then for *such* a product of skill, to charge no more than a blacksmith receives for the same amount of time expended on your horse, looks, certainly, as though you thought your product had no more value than his. Suppose, if you find a diamond by an hour's search, is that a reason why you should sell it for the price of an hour's wages ?

A man is suffering the pangs of toothache, by your skill you relieve him in an hour, or it may be in a minute, shall you therefore be compensated only for an hour's or a minute's time at day laborers' wages ? Clearly not. The less the time, the more to pay. There is sometimes, not always, a realization of this idea in surgical dentistry, but when we look at mechanical dentistry, as it is commonly called, how false are the views of many ; they change as though they were mere mechanics, and the result is, the public take them at their own estimates of themselves, and their own operation show sooner or later, the bad effect of this low standard. A man is never up to his ideal, but always below it, therefore correct ideas are all important on this, as well as on other subjects, to make our practice right.

KNOWLEDGE.

The next thing we will consider, is the value of dental knowledge. Any respectable attorney will charge a fee of from ten to fifty dollars for an ordinary case. This retainer is a prepayment for the legal knowledge he expects to impart.

If he pleads in any court for you, this service will call for an additional fee. In fact, his fees are mainly for legal knowledge imparted, and so it is with the medical profession. They no longer furnish medicines of value, but charge for medical knowledge mainly. But how about the dentist. Shall he furnish advice that will save priceless gems for future beauty and usefulness, and receive no compensation for that knowledge? It has cost him much in time and money for its acquirement, not only the first investment for tuition, but for the experience of after years, which comes through study and experiments. He must spend no small amount of time in the investigation of new facts and theories to keep pace with the rapid strides of our vigorous young profession.

A wealthy patron of an artist, once complained to him of charging what appeared to be a large sum for ten days work. The artist replied, "It took me ten years to learn to paint that picture in ten days."

SYMPATHY AND PATIENCE.

Shall we receive a compensation in money for these, asks some of you. Why not? Who of you do not know by experience how completely his whole body may be drained of its nervous forces, by a demand at the chair for a few hours for sympathy and patience, by a young or refractory patient, yet low valuable is it to them, and to all in hours of distress. A visit to a dentist for the first time, is a great event to many. The most who come to us are in pain, or at least are suffering from a nervous dread of our operations; kind words and gentle manners are appreciated then as at no other time. If you are harsh and unfeeling or impatient, you repel them from you, but if you show a delicacy of feeling for their fears, and have soothing words for their suffering, and are patient with them in their fretful and often unreasonable moods, they will treasure up a kind remembrance of you, which will go far toward removing disagreeable sensations they experience at your hands, and which you may turn into gold. More than once have I known patients leaving a skilled but harsh operator, to employ one of less skill, but of known gentleness and kindness.

CHEERFULNESS.

This, too, has its value; for many a heavy heart is carried into your presence, which a cheerful, grateful word will help to lighten. You need

not be frivolous or boisterous, but a well stored mind can gently lead the troubled one to other objects than self for contemplation, and thus may you rob your office of half its terrors.

Let nothing in the display of instruments, anatomical preparations, or in your conversation suggest sombre thoughts, but rather let pictures, books, and flowers direct the mind, with your help, to something to think of, rather than its present fears.

This quality, then, has especial value to you, because of its peculiar usefulness.

A GOOD ADDRESS.

By this is meant the ability to say the right thing at the right time and place. It is an outgrowth of refinement; however, a person may be truly refined in feeling, and yet lack the ability to express his thoughts skillfully. This is a thing for cultivation. You have golden opportunities, while a patient is under your care for treatment, to impress them with the importance of dental surgery and hygiene.

That there is a vast amount of ignorance in the teachings of our science, we well know from daily experience; is it not, therefore, a duty we owe the public, and especially our patrons, to enlighten them? Will we not be public benefactors, if we induce them to take the ounce of prevention rather than the pound of cure?

With the class who *intend* to take proper care of their dental organs, there are probably more teeth annually lost from neglect than are saved by timely operations. If this is true of those who are comparatively enlightened, what shall we say of the masses who never think or care for these things. Could we secure this last named class for our patrons, our business would vastly increase, besides we would confer lasting benefits on them.

NEATNESS.

What! Coin this into money?

If it is useful in supplying a want, it is valuable.

This is a day of judging by appearances; therefore, appearances can not be neglected.

To use a common phrase, there is money in it. Be scrupulously neat, not only for appearance sake, but for the *virtue* there is in it. Let no odors escape from your breath, your hands or your office, else a suspicion is excited against you in the minds of the refined that will tell against your pocket.

A common maxim is, "Dress bespeaks the man." The discriminating judge, and that rightly, that he who is slovenly in his habits will be slovenly in his operations.

A dentist whose office is furnished neatly, or even elegantly, can get larger fees than he can for the same service rendered in dirty, shabby rooms.

Let books, pictures, flowers and works of art, adorn your office, and it will attract the refined classes to you. The shoddy van are attracted by mere appearances, while the crowd follow when these two classes lead.

ARTISTIC TASTE.

By artistic taste is meant that which pertains to the skillful use of form, proportion, beauty, curvature and color.

It is the outgrowth of culture.

The mechanic works by fixed rules, does as he is taught, and the product of his hands is mechanical. In other days, a branch of our business was called, and that rightly, *mechanical dentistry*. Some have not outgrown the idea yet, and are still mechanics, content to work for mechanics' wages. They have no idea of anything going into the product of their hands, higher than mere labor. Agents who have visited every office in the country, report that this class, in some sections, have been obliged to clip expenses, here and there, to make their ends meet, till they are far poorer than ordinary mechanics about them. They have talked "cheap dentistry," *till they have created a demand* for it, and they have also in some instances secured a reputation. Such a reputation, of being CHEAP DENTISTS, with its necessary concomitant poverty, to bless them for their wisdom all their days.

But there is another class who understand wherein their *true* interests, and have taken a different course. They have cultivated the artistic spirit by long years of study, till they are enabled to breathe that spirit into all they do. Dead blocks of porcelain, by their touch are things of life and beauty, rivaling nature in graceful curves, delicate colors, beautiful forms, and nice proportions. The refined and cultivated appreciate this, and are willing to pay for it. This class make or unmake our reputations. They with all sensible persons are suspicious of a professedly good article, that is cheap, for fear it has no value.

It is optional with each whether he will bring an artistic product to a good appreciative market, or a cheap mechanical product to a poor market.

ADVERTISING.

This subject does not properly belong to my theme, but being collateral to it, and intimately connected with our own interest, I choose to say a few words on its use.

What colossal fortunes are made by the skilful use of the press. In

fact, it is the main element of success with the quack. He blows his brazen trumpet loud and long till the credulous flock to be fleeced. It seems to me that *this is an element worth redeeming from the vicious uses of empiricism.*

If the press enables worthless things to bring such rich pecuniary harvests, should there be any hesitancy in using it to proclaim the merits or *make a market for a good thing?* There needs to be wisdom used in this as in other things. Mere puffing is of doubtful expediency, but the most fastidious on this subject can not object to the enlightening of the masses on subjects pertaining to our specialty, and to teach them wherein is their highest interest, for their interests are identical with ours in this matter.

Let me suggest that this society offer a prize for the best written tract, or tracts or books, on subjects pertaining to the care and preservation of the teeth; let the matter be put into the hands of a committee to report at the next meeting of the society, and if they are adapted to the public want, let them be printed under the auspices of this society. Can it engage in a better work? Will it not do more to regulate the practice of dentistry than the best devised laws? Give the public the means of discriminating between the good and bad, and their interests will lead them to the man that will give them the most value for their money.—*Register.*

ON FILLING INTERSTITIAL CAVITIES IN MOLARS AND BICUSPIDS WITH GOLD.

BY MORDAUNT STEVENS, M.R.C.S.E., L.D.S., D.D.S., HOUSE-SURGEON TO THE DENTAL HOSPITAL.

How to obtain *easy access* to distal cavities in molars and bicuspids, has until lately been a puzzle to me. The text-books tell us to chisel from the *masticating surface* of the tooth till we can obtain a good view of the cavity, and, after excavating, we are directed to pack our gold against the cervical wall, finishing at the masticating surface. Most operators follow this plan, but the labour is immense—for instance, in filling up the first upper molar the operator is doubled up, so to say, having to keep his head down at the imminent risk in this hot weather of an apoplectic fit. Besides position, the objections to this method are manifold; you chisel away an immense proportion of the tooth, cutting away the most important wall, the masticating one, so that suppose you use non-adhesive gold you always find a difficulty in packing the last pieces.

Other practitioners cut away the disto-buccal angle, and fill the cavity from the inside; I have seen this beautifully done, but to say the least

it is very difficult, and about the hardest work for a guinea a man can do ; the same may be said of the plan of breaking down the masticating wall. In all these cases the patient has to keep his or her mouth wide open—no slight task, considering the length of time these fillings take.

Some little time ago I hit upon a plan accidentally, which I have followed ever since. Suppose, *e.g.*, I were going to fill an average cavity at the back of the first upper molar, I would with a sharp chisel (and how difficult it is to find a *good sharp* chisel) cut away as much of the disto-buccal angle of the tooth as would enable me to see the cavity ; then, after shaping with hoe excavators, I would pack my gold (non-adhesive) with *foot-pluggers* against the palatal wall, finishing at the buccal wall instead of beginning at the cervical wall and ending at the masticating surface.

If I am filling on the right side of the mouth I turn the patient's head away from me and stand on the right, and *vice versa*. I will enumerate in a few words the advantages of this system.

1st. You stand almost, if not quite, upright.

2ndly. The patient can shut his or her mouth, if you use the rubber dam, and thus allow you to draw the corner of the mouth further back.

3rdly. You obtain a good view of the cavity.

4thly. You chisel away less of the tooth than you would if you followed any other plan.

In filling distal or central cavities in the bicuspid, I wedge with hickory or cotton wool ; if time enough is not allowed for this, I chisel in the same manner as described for the molars, but with far more circumspection, very little is sufficient, and fill in the same direction.

Of course, in some cases this plan is not admissible ; for instance, when all the masticating wall is gone. In these cases I should use adhesive, preferring Morgan's sponge gold. Likewise, when the cavity is very close to the palatal surface of the tooth we have no alternative except filling from the inside. I cut up my gold in *points* ; these are made by rolling up a sheet of No. 4 non-adhesive into a rope, and cutting it first obliquely, then straight across in lengths, so that each piece is triangular, having a broad base, long sides, and a sharp apex. The best way to prepare these points is to roll up some sheets of No. 4 (Abbey's) loosely into ropes, so as to make soft points to start with ; the finishing points are best made of No. 4 (Ash's) rolled up tightly. This plan of cutting up gold was first shown me by my friend, Dr. Gregory, of Paris. With the help of these points, plugging forceps (foil carriers) and a set of pluggers Messrs. Ash have made for me, I find that I can introduce fillings with greater satisfaction than by any other system.

A large soft point is first taken up with the forceps and inserted, with the apex foremost, into the cavity; it is then *forced* with a *foot-plugger* against the palatal wall, the other points are then inserted in the same manner, and, if possible, the mallet is used; a good hold should be left for the last piece, unless adhesive is used to finish off with; thus, every piece being well compressed, &c., I avoid using the wedge, an instrument I have now completely discarded.

To conclude, I will add that every man has his own ideas on this very important subject (gold filling), and it would be a great boon if every practitioner who has found some way of lightening his toil would communicate his idea to the profession through the Journal, thus opening a wide and instructive field for discussion.—*British Journal Dental Science.*

TEETH PARASITES. SUGAR AND THE TEETH.

Since my last on the above subjects, which appeared in your issue for June, I have increased the power of my microscope from 250 disc to, I should judge to be, from 450 disc to 500 disc (but not having a stage micrometer I cannot state the exact power used with certainty), but can find no trace whatever of organic life. The matter examined was from the mouth of a person who does not make use of the tooth-brush more than once in the day, taken from between the first and the second of the inferior molars. But, from the following statement of Dr. J. H. Bowditch, of the United States, it would appear that organic life must be found in the matter taken from between the teeth, and goes to prove that the extract which I gave in your issue for June would appear to be correct: "Having examined with a microscope matter deposited on the teeth and gums of more than forty individuals, selected from different classes of society and in every variety of bodily condition, in nearly every case he discovered animal and vegetable parasites in great numbers, in fact, that only persons whose mouths were found to be entirely free from those parasites cleaned their teeth four times daily, using soap once. Among the various agents applied were tobacco juice and smoke, which do not impair the vitality of the parasites, nor does chlorine, teeth-wash, pulverised bark, soda, ammonia, &c.; however, pure white soap destroys the parasites naturally."

As I have not met with a good explanation of the action of "Sugar on the Teeth," I thought the following might prove interesting to the readers of the "British Journal of Dental Science:"

"M. Larez, of France, has proved that sugar from either cane or beet is injurious to healthy teeth either by immediate contact with them or by

the gas developed, owing to its stoppage in the stomach. If a tooth is macerated in a saturated solution of sugar it becomes gelatinous and its enamel opaque, spongy, and easily broken. This modification is due not to free acid, but to a tendency of sugar to combine with the calcareous basis of the teeth."—F. GRAHAM YOUNG, 7, Park St., Bristol, England.

CASE OF NECROSIS OF LOWER JAW FROM MERCURIAL SALIVATION.

Under the care of Dr. T. A. MCGRAW, Professor of Surgery in Detroit Medical College.

Thomas McGlochlin came under my care at St. Mary's Hospital on March 29th, 1870. Six years before he had been treated for syphilis, and badly salivated, had since then been well until the middle of March, when he caught a severe cold, and was seized with chills, fever, headache and coryza. He consulted a physician who ordered some powders, which he believes to have been composed of calomel. The quantity contained in each powder is unknown. After taking three or four his gums began to get very sore, his breath fœtid and his teeth loose. He, notwithstanding, continued their use according to orders, until he became alarmed.

On examination, I found him presenting every symptom of mercurial salivation in a very high degree. The peculiar odor, the ulcerated cheeks and swollen and bleeding gums, the profuse secretion of saliva, and the teeth dropping from their sockets, as well as the very positive history of the case, left no doubts regarding the diagnosis. Already when he came under my charge, had the lower jaw bone become seriously diseased. Sinuses, discharging pus, led to bone, bare of periosteum.

Chlorate of potash, in ten grain doses, was given every hour. His strength, which had begun to fail, was kept up by concentrated nourishment, given frequently in small quantities, and moderate doses of morphine served to relieve pain and produce rest. The local symptoms rapidly subsided. The swelling diminished, pain disappeared, the breath, though still fœtid, lost somewhat of its offensive character.

On April 12th, the necrosed bone seemed ready for extraction. The patient was brought before the class of the Detroit Medical College, and by forceps and fingers, more than half of the lower jaw was removed. The specimen is now in the College Museum, and represents that portion of the jaw included between the right condyle and a point half-an-inch to the left of the symphysis.

The patient did well, and left the hospital free from all disease and in tolerable strength. Sufficient time had not elapsed, however, on his departure to determine whether regeneration of the bone would occur,

nor have I been able to learn of his condition since, but it is remarkable that scarcely any deformity resulted from the loss of bone. The jaw seemed to retain its contour, and showed no tendency to fall in.—*Detroit Review of Medicine and Pharmacy.*

MOULDING SAND.

BY A. H. YOUNG.

A great improvement to the ordinary moulding sand will be found in the addition of from 36 to 60 per cent. (according to the nature of the sand used) of finely-powdered bath brick, which may easily be obtained by rubbing two bricks together. I have used it for some time in my workroom, and find that I can, by virtue of its *cohesive* and *compact* nature, uniformly obtain clearer and sharper impressions, the castings having a smoother surface than with the common moulding sand.—*British Journal of Dental Science.*

BIBLIOGRAPHICAL NOTICES.

Taking Impressions of the Mouth. By James W. White. Philadelphia: published by Samuel S. White, 1871. 27 pages. With a chapter from Harris's on "Porcelain Teeth," making in all 75 pages Illustrated.

A plain, practical essay on taking impressions of the mouth with wax, gutta percha, and plaster of Paris. The author truly says, "Without a correct impression of the mouth to begin with, no subsequent care can secure a good result, no matter of what material the base may be composed."

Transactions of the 7th Annual Session of the Illinois State Dental Society, held at Peoria, Illinois, May 9, 1861.

This publication of 146 pages does infinite credit to the Society, and we must again thank the secretary, Dr. C. S. Smith, for his courtesy in sending us a copy. We would like to give a more extended notice of these transactions, as they are certainly very deserving, and the spirited action of the Society in publishing them in book form very praiseworthy. By special permission we publish one of the essays in the present number.

The Teeth and how to Save Them. By L. P. Meredith, M.D., D.D.S.
 Published by J. B. Lippincott & Co., Philadelphia, 1871. 16mo.
 Illustrated. 271 pages. Cloth, \$1.25

The author of this volume has essayed to produce a popular work on dentistry for common reading; and has, to our mind, succeeded as well as might be expected. It would be impossible to expect that a work of this kind would be devoid of some faults, and it would be most unfair to condemn it because certain portions are not quite up to the high standard of thought and practice. The matter is very simply written, makes no pretensions to originality, is just what the people need, and what every dentist ought to possess, for, although not aiming to become a dental text-book, any dental work, honestly written, ought to be encouraged.

The chapters on quackery, advertising, charges, and warranties, evince a mind tutored to the observance of the code of ethics, and will do good. These the author might have extended to great advantage, and perhaps omitted some of the earlier chapters, which are less needed.

We would suggest to the publishers the propriety of issuing the work in a cheaper form for general sale.

EDITORIAL.

MATRICULATION EXAMINATION.

When the Committee appointed to draft the frame-work of the "Act Respecting Dentistry" were consulting together, in order to decide upon what would be best for the interests of the Profession generally, they asked the advice and assistance of Dr. Dewar, a member of the Medical Council, and Doctor Berryman, one of the Professors in Victoria College, upon several matters, and among them was the propriety of fixing a Matriculation Examination for Students. It was decided that as dentistry at that time was, so to speak, in a state of chaos, it would be advisable to "make haste slowly," and provide for a strictly dental education first, and after three or four years to fix upon such an examination for matriculants as the Board might see fit and proper under the then existing circumstances. Acting upon that decision, the Board has increased the strictness of the final examinations from year to year until they are now nearly as thorough as need be required. All students who have commenced since January, 1870, are required to attend two full courses of lectures in some recognized dental college.

Nearly four years have passed since the Act came into effect, and it certainly seemed as if the time has arrived when a little more care should

be taken to see that young men whose education is not up to a moderately high standard, should not be allowed to enter on a course of dental studies. It will not be well, we think, to fix too high a standard *at present*, but as the Board most undoubtedly has the power, under the Act, to determine what a man's qualifications shall be, before he can pass his final examination, it follows that it should have the power to fix and determine such a matriculation examination as will compel a person to learn to write the English language with tolerable correctness, before he attempts to learn dentistry.

Our attention has been called to this subject by the low, vulgar and ungrammatical language, of divers and sundry circulars and newspaper articles which have been flying about recently. It is to be hoped that the Board will attend to this matter at its next session so that those who come after us, if they must be so foolish as to publish puffs and challenges, will do it in language which will not bring a blush to the cheek of all respectable dentists, to think that there is such ignorance in the Profession.

C.

THE COUNTRY DENTIST.

In discussing various points of ethics, with reference more particularly to advertising and fees, we feel that we may have omitted to do justice to a large and important class of the profession, whose position "out of town," in a sparsely-settled country like Canada, and among a people so ignorant of Dentistry as the mass of Canadians, is certainly peculiar.

In the very outset of his career in Canada, the country dentist finds himself among farmers who know comparatively more about the care of the mouths of sheep and cows than their own, and among a large class who need dental cuts in the newspapers, and show-cases in the streets to attract their attention to the fact that the "Dentist" attends to the teeth, with something of the same degree of intelligence as the four year older, who requires the illustrated picture book to deepen the impression in his mind of the difference between a wheel-barrow and a spade. The degree of enlightenment is somewhat higher in the cities and large towns; but there still exists for all dentists in Canada a tangible difficulty in overcoming ignorant prejudice and penurious "economy" with regard to the teeth. To this condition of things we may attribute certain breaches of professional ethics by dentists practising out of town, and who might possibly starve if they conformed to rules suitable for the town, and suitable for a population well informed, and fully appreciative of the value of the teeth.

What would be considered eccentricity or carelessness in the matter of dress, for instance, in the city, is simply a matter of custom and comfort out of town; and the gayest dandy is only too glad to throw off his swell toggery and enjoy the release of a rough mufti and a *tout ensemble* to please himself alone. In most other circumstances there is a conventional difference between the city and country, to which most of us conform.

There are moral and professional principles which no circumstance of residence can annul; but it would be drawing too fine a parallel to say, that just as a man should be a Christian in the country as well as the town, so should a dentist be a consistent observer of dental ethics framed mainly by city dentists, or by dentists in larger and more intelligent country communities than we find in Canada, wherever he may happen to reside. The parallel is not fairly drawn. The one is a question of moral principle and life, as indelible as the very heavens, to be cherished regardless of cost: the other a point of honor, but still a point of existence,—and human nature may die for a principle involving a theology, but will not tolerate rules of etiquette which involve its sure starvation. Debt and family responsibility are rare casuists, and we assume that the men who profess a readiness to perish rather than break a rule of professional etiquette are pretty well convinced beforehand that they will never have the chance to be tried.

In codes of dental ethics there are generally, first principles of good manners laid down which we do not think are at all unnecessarily detailed, and which certainly ought to be instinctive and innate with dentists in every sphere. Kindness, firmness, patience, willingness to explain mysterious points of practice, and ability to do so, are circumstances of timely education, and if a code of ethics can instil a condition of character, so much the more credit to the code. But in regard to the matter of advertising and fees, we must do justice to the circumstances of the country dentist in Canada. While we hold that the city dentist has no excuse for resorting to hand-bills, posters, and other forms of advertising than the ordinary card, there are fair reasons for excusing the country dentist, in Canada at least, should he feel it necessary to do so; and yet there is no excuse on the other hand, for the country dentist who makes use of these means to call attention to the lowness of his fees, his special modes of operating, or his superiority over neighboring practitioners. It must be remembered that the country people in Canada are difficult to reach; that they do not all take newspapers; that they are more zealous of the time necessary to be devoted to good operations, have expenses of board and lodging in many cases, while remaining to have dental operations completed, and have actually to be coaxed to be educated to care for their teeth.

Many farmers never visit the dentist in his office, but wait for the travelling practitioner, and dental operations are performed in the precarious steadiness of rocking and arm chairs, and under other circumstances prejudicial to success. If the people were better educated in dentistry they would never encourage the travelling dentist who goes from house to house to solicit or perform operations. They expect their teeth can be repaired like tin kettles, and class the dentist with the gipsy and peddler. Had travelling dentistry been in the hands of honest men, much good in educating the people on dental matters might have been accomplished; but it has served to deepen prejudice because so much in the hands of dishonest men. These facts show the difficulties to be met by the country dentist of to-day: that he has to pave the way for practice in most cases by a previous education of his patients.

In this light, of the country dentist doing his best intelligently and honestly, we see the necessity for some travelling dentistry at present, but no more excuse for quackery on the country road than quackery on Nctre Dame street. We see, too, the actual necessity for modest hand-bills and posters, and advertisements in the newspapers, but again, let us reiterate, no reason at all for bombastic egotism and absurd pretention. We have no more defence for dental cuts and show-cases for the country dentist than for his *confrère* of the city; and while regretting that the state of dental education among the people is so low as to necessitate the same means of calling their attention to the presence of a dentist as the visit of a circus, we have faith that better days will come, and that Canadian farmers and village residents will welcome the appearance of the honest dentist among them, and will not require persuasion to have attention paid to their teeth.

Let country dentists frown down such intolerable conceits and high-flown quackery as we still see in the advertisements of some practitioners, and avoid imitating a bad example, even if it be imported from the town

With reference to fees, the country dentist ought to operate for lower fees than city dentists, because his expenses are much lower: but on the other hand, if he can render equally good, and as many can, *superior*, work to the large majority of dentists in cities, we do not see why any circumstance of residence should make him lower his fees. We know some dentists practising in country districts of Canada, who demand higher fees than practitioners in some of our large cities, and others who attracted patients to them from a distance by their superior skill, and who were paid much higher fees than the large majority of city dentists could have obtained for similiar services in town. Such appreciation is the

exception, not the rule, in Canada ; but it is well to chronicle these facts, as indicative of what can be done by skill in practice, and dignity in demanding fair remuneration. Patients going to town have the expenses of board, &c., in addition to higher fees to pay, and run the risk of getting into the “ Dental Slaughter Houses ” to be found in most cities. Those are indisputable facts which should stimulate country dentists to aim at excellence. A tooth cannot be filled nor a set made any cheaper in the country than in the city, if honestly done, because where the country dentist has the advantage of smaller expenses, the city dentist has treble the amount to do. In nine cases out of ten the country dentist is a better operator than the same proportion of city dentists. His position conduces to quiet study ; his physique and health is superior ; his nerves are more under control, and he may, as many do, find a friend and a mutual educator in the village physician, both of whom react on the other, and tend to mutual knowledge and improvement. What kills the country dentist is a want of friendliness with confrères, and an effort to underbid to gain a practice : while there has been some indulgence in personalities, and miserably mean reflections and inuendoes in the papers, discreditable to members of a profession which now ranks in Canada with the leading profesions of the day. Fee bills in Canada for town will not serve for the country, simply because very many of the people would rather lose their teeth, than expend as much for their salvation as they would for their beer, and grudge a professional man a whit more profit than the one who makes their boots. The remedy lies in educating them by means of the press, by publishing reliable information in regard to the teeth, without any advertisement appended ; by educating in the office, by doing one’s very best conscientiously in every operation, and so winning the respect and confidence of the public.

B.

“ YOU MEAN ME ! ”

In the palmy days of the regime of Napoleon the Third, Victor Hugo made the following capital sarcasm, which can have numerous applications : “ When the Paris Police overhear any one using the terms ‘ ruffian ’ and ‘ scoundrel, ’ they assume you must be speaking of the Emperor.”

One of the special missions of this Journal in Canada is to turn the current of thought and action towards a higher professional standing. It has endeavoured steadily, without fear or favor, to maintain principles in accordance with this aim ; to encourage every honorable sign of reform and aspiration, however humble or weak, and, with impartial vigilance, to expose the egotistical assumptions and falsehoods of “ expositors,” and

the arrant imposture of quacks and "gutter dentists." Principles laid down in print have invariably been carried into practice, and even much personal private assistance has been given, to alienate and educate poorly qualified beginners from the dangerous attractions of open quackery. However, there are always barnacles as well as birds, and you cannot make a bird of a barnacle by giving it wings. It is just as natural for some men to be superficial and dishonest, as for barnacles to cling to a ship's bottom, and birds to play on its masts. The great aim must be to force such natures to turn their attention to some other sphere of labor where they can do less harm. In this age it seems that there must be a proportion of every population to fill the prisons, and the happiness of society would be greatly enhanced if dental quacks were less lucky in escaping their natural home. Any assistance this journal can give them, in facilitating their speedy conveyance thither, will be afforded most cheerfully and without cost.

We are very happy to learn that by remarks made in this journal upon show cases, soliciting patients, and all such demeaning ways and means of obtaining practice, we have succeeded in making the lives of some notorious quacks miserable. For three years attempts were made to coerce them into honesty, but, in spite of the proverb, dishonesty was *their* best policy, because it was the best paying policy, and that is the extent of their philosophy. Conciliation with quacks and Fenians is "played out," and we are as strong advocates for pillorying and punishing the one as for bayoneting and hanging the other; and when we use the terms "ruffian" and "scoundrel" *we do mean them*.

It is amusing, however, to find others appropriating these remarks to themselves, and fitting caps to their heads which were never designed for them. But just as truly as some can get well fitted with a ready-made coat instead of leaving their measure, so remarks made in a general way, will here and there find a bosom to nurse them; and it would be a sad pity for preachers if it were not so. We do not care one whit whether or not we lose subscribers by alluding to matters which to them may be disagreeably true. When this journal has to lose its independence we will print its obituary. The history of dental reform in Canada will only be a repetition of the history of dental reform elsewhere, and we calculated in beginning this journal to tread on tender toes and rub some backs against the grain. Dentists of common sense and honor in Canada, must see that unless we assume a state of perfection never yet assumed by respectable dentists elsewhere, reform must necessarily break down old barriers, and ruffle the tranquillity of minds, by abolishing unprofessional customs that may have almost become an integral part of our existence.

UNPROFESSIONAL SIGNS.—A LEGAL OPINION.

We have always held that the Board of Examiners, both in Quebec and Ontario, were invested with power to actually prohibit some unprofessional signs.

Before receiving the license the candidate makes an affidavit before a justice of the peace, that, "if granted a certificate to practice dentistry, I will truly and honestly demean myself in the practise of the said profession," and Section 14 of the Act of Incorporation gives the Board power to cancel the license of any licentiate who has been guilty of acts "detrimental to the interests of the profession." The following legal opinion on the subject will be read with interest; and we wish forcibly to impress upon one or two who sneer at the Board of this Province that, if the Board takes up any point against them, they may rely upon most thorough exposure of the shameful imposture systematically practised in their offices from day to day :

Montreal, September, 1871.

DEAR SIR,—With reference to the question submitted to me, as to the use of "show-cases" in your profession being illegal, I beg to state the following :

The Act, 32 Vic., chap. 69, gives the Dental Association of this Province, the *sole* power of *licensing* Dentists for Quebec.

Section 15, allows the Board certain powers to make rules and regulations for the proper working of the profession.

Under section 17 any Dentist disobeying the rules, so made, forfeits his license.

It reads as follows: "When the Board shall be satisfied that he has been guilty of acts *detrimental to the interests* of the profession, he shall forfeit his certificate and title, and it shall be cancelled." The only question, therefore, is, would your Board pass a resolution to the effect that the use of show-cases is detrimental to the interests of the profession? If so, the whole case is in a nut-shell. The Board takes no civil action against the Dentist who refuses to comply in order to deprive him of his license, but simply notifies him of his illegally using the said cases, and forwards him a copy of the resolution so passed. If he pays no attention to the notice, under section 21, he is liable to a fine of \$100, or, in default of payment, to be imprisoned for 60 days.

I am,

Yours truly

FRANK J. KELLER,

Advocate.

NEAR THE END.

The next number will complete the third volume of this Journal.

After an experiment of three years we are fully satisfied that it has met a want in Canada, and, for reasons we will not question, has certainly received an amount of support from "our American cousins" which we scarcely anticipated.

The Canadian dental profession have in this Journal their first and only periodical, and, while sustaining those abroad, are materially interested in supporting at least one at home. It is unnecessary to reiterate facts well known as to the use it has been to the profession in this country; and, while no one feels its shortcomings more keenly than the publisher, he is sanguine enough to believe that, with the continuance of help from old contributors, and the promises from new, and with a greatly increased circulation, he can make the Journal still better in appearance and more useful in every respect.

Looking back on the labour attendant upon its publication, and three successive years of pecuniary loss—as journals of this kind never pay their expenses, especially when they are not an advertising auxiliary of any manufacturer or college—the publisher would gladly retire from the work, were it not a labor of love.

The next number will contain the prospectus of volume 4; and we here beg to say that we will announce no arrangement which cannot be conscientiously and fully carried out. We may here state that the next volume will begin *a new series* with several improvements, and that we will delay its issue a short time in order to perfect arrangements for punctuality, &c.

B.

 FOR OUR MUSEUM.

We acknowledge with thanks the receipt from Mr. Geo. Hutchinson, Ottawa, of a very large cuspid, which would pass very well for a relative of the case presented by Mr. Weagant; also, a plaster model of a very remarkable case of ankylosis, which we will illustrate in a future number. Our Museum of Dental Specimens grows. We hope to be able by next spring to show its practical advantages.

Also some interesting cases of Exostosis, anomalous development of the fangs, &c., from Dr. T. A. Venner, of Quebec.

 LIQUID NITROUS OXIDE.

Some two or three years ago nitrous oxide gas was successfully liquified in England, kept in strong iron bottles to prevent bursting, and

has been used very extensively by English dentists, and exclusively at the dental hospital of London, by Messers Fox, Clover, Coleman, &c. During the late Franco-Prussian war its portability was a great convenience to the surgeons of the two armies, and it was used with much success. It is said that as high as \$5000, has been offered by parties in the United States for the set of apparatus and explanations for its manufacture, but without success. Johnston Bros., of New York, (formerly M. M. Johnston & Co.,) have at last succeeded in discovering the "secret" without any thanks to our friends in England, and now furnish the gas, in the liquified form, in bottles which are previously subjected to a hydrostatic pressure of 500 lbs. to the square inch before being used.

One hundred gallons of gas is condensed into a liquid in a bottle only twelve inches long by three inches in diameter, which can be carried in the hand from place to place, occupying very little room beside the chair.

What are the advantages of liquid nitrous oxide? Its portability is certainly one recommendation; the ability to tell exactly the amount left in the bottle after an operation, another; and if it be true, and experience seems to assert so in England, that less is required to produce insensibility than in the old form, that it is purer, because in the process of condensation everything but the gas is excluded by the very nature of the operation, and that it does not deteriorate as it is thought gas will when kept in gasometers, then the only consideration which can prevent its supplanting the present tedious mode of manufacture, is its cost, as of course it must needs be purchased from the manufacturer. We will hear more about it soon.

B.

THE LATE HORACE WELLS.

The reputation and the glory of the discovery of anæsthesia, undoubtedly belongs to the Dental Profession collectively, and to the late Dr. Horace Wells of Hartford, Conn., individually. The recent death of Sir James Young Simpson revived the discussion as to priority of claim; but the facts stand on record that the claims of Dr. Wells were confirmed by Sir James Simpson himself, in the very last article he wrote.

It is due to the memory of Dr. Wells, and due to our profession, that this claim should be maintained, and there is not a practitioner who respects his calling, but shares in the reputation which this discovery has

reflected on dentistry, It is quite unnecessary to repeat facts so well known as to the inestimable boon this discovery has been to the whole world, and the frequent proofs we have in our own practice, of its assistance in alleviating the pangs of tooth extraction.

Some time ago, we received a copy of a series of resolutions passed at a meeting of dentists in Hartford, Conn., held on the 11th of April, 1870, and our esteemed friend, Dr. J. H. McQuillen, desired our co-operation in extending the purport of the movement, viz., to raise funds to erect a monument to the memory of the late Dr. Wells.

We may have appeared to have been remiss in this matter, but we will here state our reasons for not publishing the resolutions at the time referred to. We learned that the widow of Dr. Wells was in poor circumstances and obliged to earn her living by her own hands; having had to support herself and son since her husband's death. It was said that she had often declared that the discovery of her husband "had been to her and her family an unspeakable evil, for it cost the life of her husband and substituted the 'res augusti domi' (scanty fortune) in place of a lucrative profession and a happy home." That this lady should have been so long neglected is a reproach to the dental profession; and while she is in the least need, we have no sympathy with funds for monuments. We wrote to that effect to the committee appointed in Hartford, and offered to give any assistance towards providing an annuity for Mrs. Wells, as the first consideration.

We are glad to learn that Mr. Fox, editor of the *British Journal of Dental Science*, has made a similar appeal to the dentists of England, and we trust that the Hartford committee will so change their action as to first secure comfort for Mrs. Wells, and then the monument; otherwise any such erection would stand as a memorial of a mistaken enthusiasm, and a reproach on the humanity of the profession. B.

MEETING OF THE SEVENTH AND EIGHTH DISTRICTS DENTAL SOCIETY, N. Y.

We have received from the President of the Eighth District Society a Programme of the proceedings of the meeting which is to be held at Warsaw, N. Y., on Tuesday, the 31st October, and he has requested us to invite any and all respectable dentists in Canada to be present. The annual meetings of these societies is one to which we always look forward with the greatest pleasure, for, from experience, we know that they are real live gatherings, and we hope to see a large number from Canada there.

C.

NEW AMALGAM.

A beautiful and excellent preparation for filling teeth. For this new combination of metals (chemically pure) for dental purposes, great superiority is claimed over ordinary Amalgams. It will remain bright for years, and, when used according to directions, will preserve teeth more perfectly than any article in use, except gold; and under many circumstances can be successfully used for the permanent preservation of teeth when gold would prove a failure in the hands of a large majority of operators.



The process of combining and purifying the metals is such as to guarantee comparative freedom from the tarnish of fillings, or discoloration of teeth, so often observed from the use of ordinary Amalgam. Ten years' experience with it in the hands of some of the most skillful members of the profession has proved its excellence. The increasing demand for a reliable Amalgam has prompted the introduction of this article, with the confidence that it will give entire satisfaction to those who use it rightly.

To manufacture a superior Amalgam, always uniform in quality and texture, at a moderate cost, it is necessary to make it in large lots, and by the aid of machinery. It is also necessary that each lot be thoroughly tested by a competent Dentist before offering it for sale. The inventor has made such arrangements for its manufacture as to enable him to guarantee the reliability of every package.

To meet the wants of different operators, two grades of the New Amalgam were manufactured (fine and medium coarse).

Hereafter but one grade will be put up, which will consist of the two grades combined, and will be put up in *quarter, half and one-ounce* packages, with circular of instructions accompanying each, with trade-mark of manufacturer on each package and circular.

Retail Price, per oz..... \$4.00

Manufactured by Dr. B. F. Arrington.

All orders, wholesale or retail, will be filled by the undersigned, at his Depots.

TOWNSEND'S AMALGAM.

Price, per oz..... \$2.00

TOWNSEND'S AMALGAM, IMPROVED.

A very Superior Article, put up in 1oz., ½ oz., and ¼ oz., packages,

NONE SOLD IN BULK,

Price, per oz..... \$3.00

LAWRENCE'S AMALGAM.

Price, per oz..... \$3.00

WALKER'S EXCELSIOR AMALGAM.

Price, per oz..... \$4.00

All the above will be supplied to dealers at Manufacturers' rates.

SAMUEL S. WHITE,

Philadelphia, New York, Boston, Chicago.

GUILLOIS' CEMENT.

In response to frequent inquiries, we are now prepared to furnish this Cement.

There are four shades, Nos. 1, 2, 3, and 4, indicated by a sample attached to each package. No. 1, bluish; No. 3, bluer; No. 2, yellowish; No. 4, yellower.

From a communication to the *British Journal of Dental Science*, by Charles James Fox, M.R.C.S., L.D.S., we give the following extract:

"I have been for some time expecting to see some communication respecting this cement, recently introduced, as every one who tries it expresses privately extreme satisfaction with it. When this is the case, I think it is only fair to say so publicly. It is of the same nature as that commonly called osteoplastic, but it differs from it in this particular, that it can be mixed to a consistence much resembling putty, and in that state can be manipulated for some minutes without setting irretrievably. If you mix the other osteoplastics as thick as this, they set rapidly or crumble; if you use them in a thinner condition, they run about on the gums and teeth. When once set it is so hard, if it has been properly manipulated, as to turn the edge of the instrument, should it be deemed requisite to remove it. As to its durability, it is of course impossible to say much, seeing that it has only been introduced into England for a few months; but this much may be said, that, taking four months' experience with other cements, and four months' with this, I have found it so superior that I have entirely discarded all other osteoplastics, amalgams, etc. In small cavities in the incisors, or in shallow cavities where osteoplastics would wash out in a short time and dissolve away, Guillois' Cement remains at the end of four months as good as when it was put in. I cannot tell what further experience may prove, but so far—and only for four months' experience do I speak—I have not had one failure, which is more than I can say of any other."

Put up in one-ounce glass-stoppered bottles—the liquid in a drop-bottle—directions accompanying. Postage free.

Price, per box..... \$5.00

CEMENT PLOMBE.

(THE CELEBRATED GERMAN CEMENT FILLING.)

This cement is very highly recommended by those who have used it.

There are four shades, Nos. 1, 2, 3, and 4. No. 1, light; No. 2, cream color; No. 3, yellow; No. 4, dark blue.

Put up in one-ounce glass-stoppered bottles, the liquid in a drop-bottle.

Price, per box..... \$3.00

CEMENT LAC OR VARNISH,

FOR PROTECTING THE FILLING WHILE HARDENING.

Price, per bottle..... \$1.00

SAMUEL S. WHITE,

Philadelphia, New York, Boston, Chicago.

Gold Foil.

Our Adhesive Foil, (in Brown Envelopes,) is more popular than ever with the profession, and its manufacture receives our unremitting care. We, however, call ESPECIAL ATTENTION to our Non-Adhesive or SOFT FOIL, (in Carmine Envelopes,) which has recently been very greatly improved. By annealing it, any desired degree of adhesiveness can be obtained, and an unusually excellent Adhesive Foil secured.

We make Nos 3, 4, 5, 6, 10, 20, 30, 60, 120, SOFT and ADHESIVE FOIL at FIVE DOLLARS PER BOOK, Thirty-Eight Dollars per Ounce. Also No. 2 ADHESIVE at TWENTY-FIVE CENTS per Book Extra.

SOLD BY ALL DENTAL DEPOTS

M. M. JOHNSTON & CO.,
Depot, 816 Broadway, N.Y.

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Cleansing Paste

FOR THE HANDS,

DEPOT, 816 BROADWAY, N. Y.

Vulcanizer, Rubber, Plaster, and all Laboratory Stains are more speedily and easily Removed from the hands by this preparation than by any other. It contains nothing corrosive, but will keep the hands soft, white, and free from chapping.

PRICE, FIFTY CENTS.

FOR SALE AT ALL DENTAL DEPOTS.

1,000 FINE ADHESIVE AND SOFT GOLD FOILS.

UNITED STATES ASSAY OFFICE, NEW YORK, May 8, 1869.

This is to certify that I have assayed some scraps of "Dentists' Gold Foil," submitted to me by M. M. Johnston & Co., of this City, and I find the same to be absolutely pure gold 1,000 fine.

JOHN TORREY, U. S. Assayer.



BROWN Envelopes indicate ADHESIVE FOIL

CARMINE Envelopes indicate SOFT FOIL.

M. M. JOHNSTON & CO.,

Dental Depots,

816 Broadway, N. Y., and 20 Fulton Ave., Brooklyn, N. Y.

LAWRENCE'S AMALGAM.

THE BEST IN THE MARKET.

Tried and found Reliable.

THIS Amalgam was invented by DR. AMBROSE LAWRENCE, of Lowell Mass., in 1847, and has been used by him and many others since, with entire satisfaction. The metals of which it is composed are combined in such proportions as, after many experiments, have been found to afford the best results; and the fact that for many years it has received the favor of almost the entire Dental profession in this country, and, to a large extent, in foreign countries, also, renders any labored praise of its qualities unnecessary.

Its reputation is already established; a result of its working qualities, apparent in the act that it makes a very uniform paste,—so tenacious that it can be readily adapted to the most difficult or irregular cavities—that from its great density it is not permeable to the fluids of the mouth, and will neither crumble nor wear away in mastication.

If used according to directions in cavities *properly prepared*, it will tarnish very little, if any.

N. B.—Dealers, as well as Dentists, should bear in mind that our Amalgam is never sold in bulk, nor in any other than our LITHOGRAPHED ENVELOPES, with our MONOGRAM TRADE MARK, on the lap.

This caution becomes necessary in consequence of some unprincipled parties offering worthless amalgams, of their own make, using our name to insure a sale. No one has our recipe nor the right to use our name in the manufacture of amalgams. "A word to the wise is sufficient."

Directions for using Lawrence's Amalgam accompany each Package.

RETAIL PRICE, \$3.00 PER OUNCE (TROY).

FOR SALE AT THE DENTAL DEPOTS.

And by the Proprietors (and only MANUFACTURERS,)

DRS. A. & G. W. LAWRENCE,
No. 9 John Street, Lowell Mass.

BIXBY & STEVENS,

COOPERSTOWN, N.Y.

MANUFACTURERS OF

ARTIFICIAL TEETH,

AND DEALERS IN ALL KINDS OF

DENTAL GOODS.

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**Cash orders will receive prompt attention.**

From recent improvements in the preparation and manipulation of our materials we claim (on the testimony of those in the Dental Profession qualified to judge) the strongest combination of Porcelain in Artificial Teeth ever attained and by comparison with other manufactures (on our own authority) a satisfactory appearance, with a variety, that the demands for our goods is compelling us rapidly to increase: which we are offering at the following.

**RETAIL RATES:**

**GUM TEETH, 14 CENTS. PLAIN TEETH, 10 CENTS**

Large discount on bills of \$50 & \$100.

**FOR SALE**

AT ALL

**DENTAL DEPOTS.**

Other goods at lowest cash prices

# C. H. HUBBARD'S TORONTO DENTAL DEPOT,

ESTABLISHED 1860.

THE MOST EXTENSIVE FURNISHING ESTABLISHMENT  
IN CANADA, AND

## GOLD FOIL MANUFACTORY.

Having greatly increased my stock of Dental Materials, I am now prepared to furnish Dentists with everything needed in the practice of their profession, including Operating Chairs, Instrument Cases, Lathes, Vulcanizers, Nitrous Oxide Gas Apparatus, Cabinets, Works on Dentistry, Anatomical Preparations, etc., etc.

A full and complete Stock of S. S. White's Celebrated, and all other makers of  
**PORCELAIN TEETH,**

At Manufacturers' prices. Would also invite the attention of the Profession to my

## IMPROVED GOLD FOIL.

Present price \$3.50 per  $\frac{1}{2}$  oz.

### SPONGE AND SHRED GOLD

AND IN PARTICULAR TO MY

## DOUBLY REFINED ADHESIVE GOLD FOIL,

To which I would respectfully invite comparison with the  
best in the market.

Also, other makers' Foil at their prices.

Agent for Canada Journal of Dental Science, also, Agent for S. S. White's Dental Cosmos. Gasometers, and other Nitrous Oxide Apparatus, and Nitrate of Ammonia.

All the Dental Text Books, recommended by the Boards of Ontario and Quebec supplied.

**C. H. HUBBARD.**

Toronto Dental Depot, 26 Adelaide St. West,  
BETWEEN YONGE & BAY STREETS.

↪ The Highest Price paid for Old Gold and Silver Plates, Scraps, &c.

All orders addressed to C. H. HUBBARD, Toronto, Ont., will receive careful and prompt attention.

# OXYCHLORIDE OF ZINC.

This article has been in use for the last eight years; the call for the same increasing as its availability as a Medico-Mechanical agent has become known. Similar articles have been brought to the notice of the profession under the names of Os-Artificiel, Osteoplastic, Bone Filling, &c.

We quote from the *Materia Medica* compiled by James W. White, and published by Samuel S. White, of Philadelphia :

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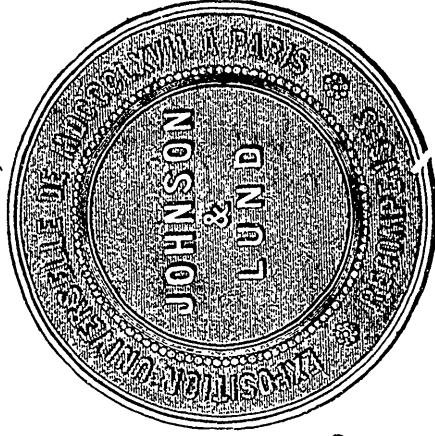
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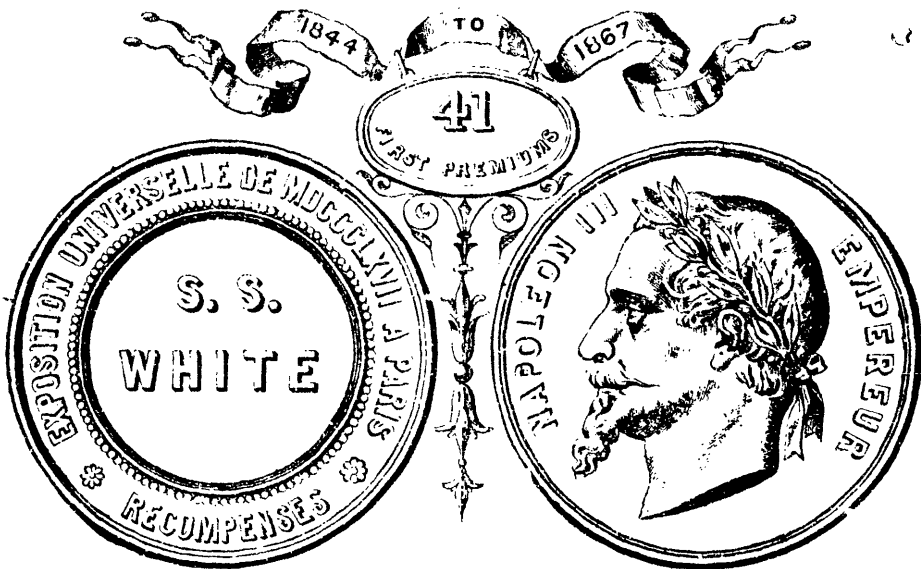
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