Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for filming. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of filming, are checked below.

L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de filmage sont indiqués ci-dessous.

- [x] Coloured covers/ Couverture de couleur
- [x] Covers damaged/ Couverture endommagée
- [ ] Covers restored and/or laminated/ Couverture restaurée et/ou pelliculée
- [ ] Cover title missing/ Le titre de couverture manque
- [ ] Coloured maps/ Cartes géographiques en couleur
- [x] Coloured ink (i.e. other than blue or black)/ Encre de couleur (i.e. autre que bleue ou noire)
- [ ] Coloured plates and/or illustrations/ Planches et/ou illustrations en couleur
- [ ] Bound with other material/ Relié avec d'autres documents
- [ ] Tight binding may cause shadows or distortion along interior margin/ La reliure serrée peut causer de l'ombre ou de la distorsion le long de la marge intérieure
- [ ] Blank leaves added during restoration may appear within the text. Whenever possible, these have been omitted from filming/ Il se peut que certaines pages blanches ajoutées lors d'une restauration apparaissent dans le texte, mais, lorsque cela était possible, ces pages n'ont pas été filmées.

- [x] Coloured pages/ Pages de couleur
- [ ] Pages damaged/ Pages endommagées
- [ ] Pages restored and/or laminated/ Pages restaurées et/ou pelliculées
- [x] Pages discoloured, stained or foxed/ Pages décolorées, tachetées ou piquées
- [ ] Pages detached/ Pages détachées
- [x] Showthrough/ Transparence
- [x] Quality of print varies/ Qualité inégale de l'impression
- [x] Continuous pagination/ Pagination continue
- [ ] Includes index(es)/ Comprend un (des) index

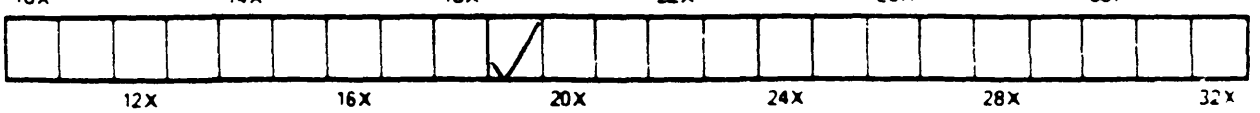
  Title on header taken from:/ Le titre de l'en-tête provient:

- [ ] Title page of issue/ Page de titre de la livraison
- [ ] Caption of issue/ Titre de départ de la livraison
- [ ] Masthead/ Générique (périodiques) de la livraison

- [x] Additional comments:/ Commentaires supplémentaires: Various pagings.

This item is filmed at the reduction ratio checked below/
Ce document est filmé au taux de réduction indiqué ci-dessous.

10X 12X 14X 16X 18X 20X 22X 24X 26X 28X 30X 32X



Vol. III. JULY, 1871. No. 9

THE CANADA

Journal of Dental Science.

ISSUED MONTHLY.

EDITED BY

W. GEO. BEERS, L.D.S., *Montreal.*

C. S. CHITTENDEN, L.D.S., *Hamilton.*

CORRESPONDING EDITORS,

W. H. WAITE, D.D.S., LIVERPOOL, ENG. AND G. C. DABOLL, M.D.S, BUFFALO, N.Y.

PUBLISHED IN

ONTARIO AND QUEBEC.

Price $2 a year, invariably in advance.

JOHN LOVELL, PRINTER.

CONTENTS FOR JUNE, 1871.

INDEX TO ADVERTISEMENTS.

THIRD VOLUME.

THE CANADA

JOURNAL OF DENTAL SCIENCE.

MONTHLY—$2 A YEAR, STRICTLY IN ADVANCE: AN INDEPENDENT PERIODICAL.

Illustrations are given as often as required.

Contributions are respectfully solicited. Contributors will oblige by writing on only one side of the paper.

Advertisers will find this Journal the very best medium for bringing their wares before the Canadian profession. Rates of advertising reasonable.

Remittances of Money, articles for publications, advertisements and books for review should be addressed to the Editor at Montreal. Money letters should invariably be registered.

W. GEO. BEERS, L.D.S,
40 Beaver Hall Terrace, Montreal.

CODMAN & SHURTLEFF,

MANUFACTURERS AND IMPORTERS OF

Dental Instruments and Materials,

DENTAL DEPOT,

13 and 15 Tremont Street, - BOSTON, MASS.

We would call the attention of the Dental Profession and the trade to our facilities for supplying INSTRUMENTS and MATERIALS of the BEST quality, and at as LOW RATES as goods of a similar quality can be furnished by any other house.

As manufacturers, we have facilities for filling orders for new styles of goods that are unsurpassed, being supplied with the best adapted machinery and thoroughly skilled workmen, and we invite comparison of our goods with any in the market.

Among other things we would direct attention to the following new instruments:—

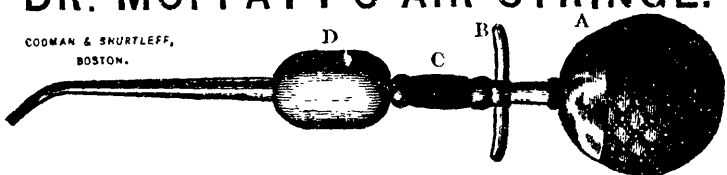
COGSWELL'S
Rubber Dam and Napkin Holder.

A very convenient and effective arrangement for holding the ends of the rubber up and back while operating. By passing the elastic round the neck, a napkin is conveniently kept in place so as to protect the lips and beard.

Price ..... $1.00.

The following instruments are for sale by the Buffalo Dental Manufacturing Company, at Dental Depots generally, and by ourselves.

DR. MOFFATT'S AIR SYRINGE.



For Drying Cavities with Warm Air and Removing Cuttings from Cavities.

A. Rubber Air-bulb.

B. Finger bars, by which the instrument is steadily held.

C. Non-conducting material, to prevent heat from passing to the part held in the hand.

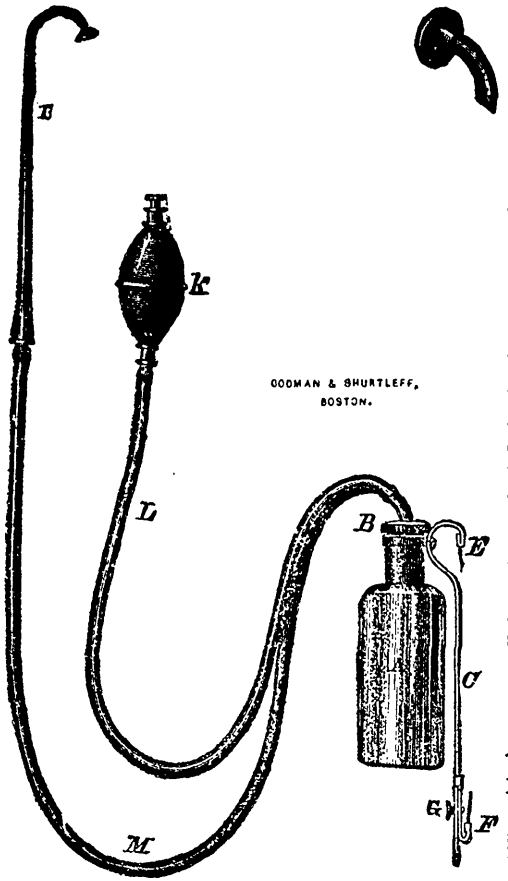
D. Thick metal bulb, having several diaphragms of wire gauze.

This bulb retains the heat a sufficient length of time, and the wire gauze imparts it readily to the air as it passes to and from the Rubber bulb.

The metal parts are nickel-plated, and the rubber is of the best quality, and ornamented by a silk netting. This instrument, it is believed, will prove a valuable assistant in operative dentistry.

DIRECTIONS.—Heat the metal bulb a few seconds over the flame of a spirit lamp or gas jet, and then inject the air into the cavity, by pressing on the rubber

bulb. When used merely for blowing out cuttings, it is unnecessary to heat it, except in cases of very sensitive teeth. Price, $3.50.



CODMAN & SHURTLEFF'S

SALIVA PUMP

This Saliva Pump is secured by the upholstery of the back of the chair by the clamp and sliding pins *E F G*. The curved end of the hard rubber mouth tube *I* is held in the mouth by one hand of the patient and the goat-skin covered rubber bulb is pressed by the other hand as often as saliva accumulates to any extent, causing it to flow through the tube *M* into the bottle. The bottle is readily disengaged for the purpose of emptying by unscrewing the milled top *B*. The valves are of hard rubber, and as they work in the *air* only, *never* become clogged. The saliva pump is used by many leading dentists throughout the United States and recommended by them as superior to all others.

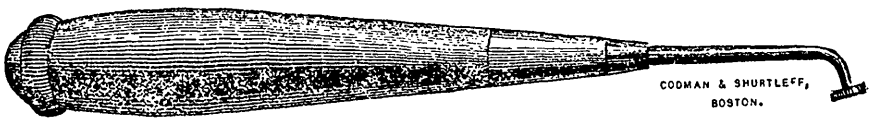
Price ..... $8.00.

CODMAN & SHURTLEFF'S

Adjustable Socket Handle.

For holding Gold Trimmers or any other small Instrument securely.

The adjustable part of the handle *A* is made to grasp the



trimmer firmly by being drawn into the ferrule by a single turn of the milled head. This socket proves very satisfactory, as it holds the instruments so firmly that they will neither turn nor pull out with any force necessary to be used.

Price $1.50. Gold Trimmers to fit, per dozen, $4. For description and cuts of gold trimmers, &c., adpated to this handle, see circular, which will be sent on application.

CODMAN & SHURTLEFF'S MOUTH MIRRORS.

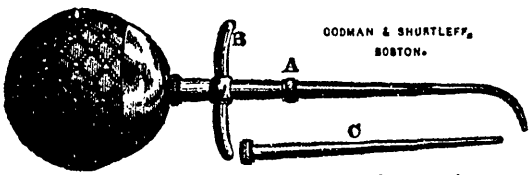
These extremely convenient mirrors are of our own manufacture; they are small round glasses, either plain or magnifying, mounted in nickel-plated frames, and have long slender handles of ivory or bony.

The Mirrors themselves are coated with silver, and mounted in such a way as to render them impervious to moisture; their construction renders them uncom-

monly useful and easy of manipulation. They are pronounced "The best mouth Mirrors ever made." Size—No. 1, ⅝ inch diameter; No. 2, ¾ do.; No. 3, 1 in. do.

PRICES, EITHER SIZE.—Plain Nickel Plated frame, ebony handle..... $1 00
" " " " ivory " 1 50
Magnifying, Nickel Plated frame, ebony handle. 2 00
" " " " " 2 50
Postage, either kind..... 0 06

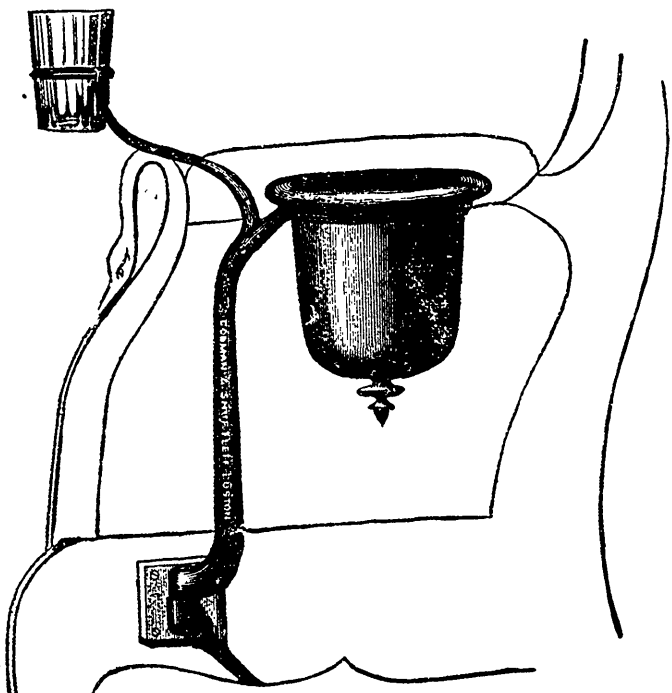
DR. MOFFATT'S TOOTH SYRINGE.



This Syringe is very carefully made, and will stand the test of wear; the only true test of any instrument. Its form is such that it may be held with perfect steadiness by two fingers passing over the projecting arms, the thumb pressing upon the bulb; in this way the point can be directed with perfect accuracy, without any of that uncertainty o aim so troublesome in other bulb syringes.

Being nickel-plated, it does not blacken from exposure to air, moisture, or contact with goods containing sulphur; it has two tubes, one straight and one curved, and the bulb is covered with silk netting. We do not hesitate to recommend this as the best Dental Syringe now made. Price, fitted in case, $3.50.

CODMAN & SHURTLEFF'S BRACKET SPITTOON, No. 1.



We here present a cut of a Spittoon of a new design. It has a brass socket and plate for attachment to the chair or room wall by screws, a brass crane or support with a ring for holding the basin, which is of heavy *spun copper, tinned inside*, and bowl-shaped, to admit of easy cleaning. The spittoon funnel is of purple glass. A tumbler bracket is connected with the main bracket or crane by a socket at the point shown in the cut, and revolves independently. This bracket may be fixed in any convenient position by means of the thumb-screw at its base. The whole swings in the lower chair socket and may be swung around so as to be in a convenient position when the chair is upright and thrown back. When Anæsthetics are used, the tumoler and funnel may be removed, leaving the spittoon as convenient as before, with no danger of breaking. We are confident that the convenience, durability and general appearance of this Spittoon will give it the preference over the common forms now in use. PRICES. Price as per cut, $10; the same with brackets Nickel Plated, $13; the same with brackets and basin Nickel Plated, $15. Illustrated priced catalogues on application.

CODMAN & SHURTLEFF, 13 and 15 Tremont Street, Boston.

THE CANADA

Journal of Dental Science.

Vol. III.] *July, 1871.* [*No. 9.*

ORIGINAL COMMUNICATIONS.

INFLAMMATION OF THE EYE FROM A DISEASED CUSPID.

BY THOMAS BROWN, L.D.S., THOROLD.

A lady suffering from severe inflammation of the eye for eight months, having in the meantime tried several eye curatives, and medical advice, all to no purpose, called at my office, and asked me if a tooth could produce inflammation of the eye. Being answered in the affirmative, she requested me to examine her teeth. They were in good condition, with the exception of the left superior cuspid, which she said had been filled in the States: the filling was still in, but had been bored through at some time, for the outlet of pus; into this opening there had been plugged cotton, which was pushed down into the canal. In answer to a question if she could remember how long it was since she had the tooth drilled, and what it was done for, she replied that there was a slight pain and swelling, and that she went to a dentist, some two years previous to her having trouble with her eye; that he drilled the tooth, filled it as above stated with cotton, told her to call in two weeks and have it permanently filled, which, she says, she did, and paid for it. Felt no symptoms of pain afterwards, (the fact was the cotton was left in or else replaced with the same material). On tapping the tooth, there was slight pain at the root; when the cotton was removed there was a foul smell. I cleansed out the cavity, found decay had extended down the canal: the sides of the tooth were no thicker than a goose quill, produced by foreign substances, the decay extended in like manner down the root; there was no appearance of inflammation of the gum near the root. The tears ran down the cheeks as in fistula lachrymalis; could not bear the least ray of light; the eye was very painful all the time. I told her that I thought it was the tooth that was causing the inflammation of the eye. Their was no granular growth on the inside of the eye-lids. Having asked other questions

there was not the least doubt in my mind but that it was the tooth that was the real cause of all the trouble. After I had given my opinion, and advised the extraction of the tooth, she said she was afraid, it being the eye tooth, and that she had made up her mind now to go to a doctor in the States, who had a great reputation for his skill and success in treating diseases of the eye. She left my office, and, in going down the street, met Dr. Palmer, asked his advice; he said, she had better go with him down to the office. She did so. After a careful examination, he said he would do nothing for the eye, until she got the superior cuspid extracted. Advised her to go to the dentist; next day she came back to me and had the tooth extracted. There was a quantity of thick yellow matter at the bottom of the socket. I cleansed out the matter and injected diluted carbolic acid. She then went down to the doctor; he gave her a bottle of eye-water. This was in December, 1869. She called in March, 1870, to say that her eye was as well as ever; that she did nothing more than apply the eye-water a few times to her eye after the extraction of the tooth. I saw her the other day; she is all right. April 6, 1870.

LYCOPERDON.

BY C. BREWSTER, L.D.S., MONTREAL.

I would like to call the attention of the Dental Profession to this well known fungus, commonly called Puff Ball. Though for many past generations a few scientific men, and a great many "old women" in the country, have known it to possess certain properties as a styptic, its great value as a means of arresting hæmorrhage has never been properly appreciated.

This wonderful member of the Fungi family attains its full growth in a single night,—a considerable undertaking for nature even in this country, where it attains only the size of an ordinary apple; but when we take the "Lycoperdon Gigantum" of the British Isles, which in those twelve hours arrives at a maturity of two or three or four feet in circumference, all other instances of the rapid growths of nature dwindle into insignificance. Its substance is made up of innumerable microscopic cells, almost beyond calculation. Some savans have placed the number contained in one of the largest sizes, at the incalculable figure of 47,000,000,000, and nature manufactures them all in one night.

Thirteen years ago I commenced using the Lycoperdon in my practice, and in all cases it was attended with great success; so that in course of years I gradually abandoned all other material, officinal and non-officinal,

and to-day I regard it, without any exception, the best known remedy wherever it can be applied locally. Its mode of application is very easy, being simply to take a piece of the fungus large enough to fill the cavity left by the extraction of the tooth, and pressing it firmly in, hold it there for a minute. If there is blood still flowing, place another piece on the top of the first, and again hold it firmly there. If this does not yet arrest the hæmorrhage remove all that you have put in the cavity and repeat the operation. Two or three applications will cure the worst case. For any other description of wound, a piece large enough to cover its surface, held firmly on, or, if circumstances will admit of it, bandaged on. For cases where it is necessary to arrest the flow of blood from a leech bite, a small piece of this material pressed firmly on the spot for a moment will completely arrest the flow.

I have never tried it, but I think in cases of bleeding at the nose, if the nostrils were cleared as much as possible of the blood, and a good-sized piece of Lycoperdon was held beneath them, tightly squeezed between the fingers, the patients being directed to inhale with all their force the fumes that arise from this fungus on pressure, would have the same effect on the lining membrane as if brought into actual contact with it. The smoke arising from the combustion of the Lycoperdon is a powerful anæsthetic.

KEEPING CAVITIES DRY.

By X. Y. Z.

A new application of the rubber dam may be made by simply folding a piece of it in a napkin and using the latter as usual. In some cases the dam is difficult to apply, and the above mode will often answer. Moisture cannot pass through the cloth because of the intervening rubber: and those who cannot use the dam ligatured, may get along fairly by folding pieces in this way, and covering the ducts, making the patient hold down that upon the sublingual glands, with one finger of the hand farthest from the operator.

FINISHING OXY-CHLORIDE OF ZINC FILLINGS.

BY W. G. B.

It may seem almost irrelevant to use the term "finishing" in connection with oxy-chloride of zinc fillings as it is understood by us in connection with fillings of metal; but possibly many failures with the former have their origin at this very stage of the operation. We see these plastic

fillings give way because the edges have been slovenly smoothened off, or not smoothened at all, and because small particles have been left overhanging the edges, or the edges have not been carefully packed. In any of the above circumstances, the secretions of the mouth will effect and destroy it, however dry it may have been kept while hardening.

One simple rule works better than the old way of finishing with a spatula; viz., to finish with a fine piece of dry starched linen, using it as we use corundum tape on the surface of a gold filling. The friction of the linen assists in drying the filling, while it causes a greater coalescence of the particles, and enables us to give the best finish possible. A drop of collodion on top when the filling is dry, and left there for a few hours, is indispensable.

PROCEEDINGS OF FOREIGN SOCIETIES.

NEW YORK ODONTOLOGICAL SOCIETY, APRIL 18.—Dr. Clowes, in reporting on "Operative Dentistry," thought failure in grinding surface cavities due to imperfect excavation of fissure extremities; thought too much attention given to the centre of cavities, and too little to the extremities of fissures; spoke of a peculiar species of hard tartar that he sometimes finds on the roots of teeth; called it alveolar calculus, and thought it deposited from the membrane lining the socket; could not conceive of its coming from any other source; thought there would always be found evidences of salivation where it exists. In approximal cavities he separates with the file, mostly on the inner side, and in a concave manner, forming what he calls an approximal arch; always separates with the file, and sometimes builds gold out at the apex of the arch near the gum in such a way as to keep the teeth apart; considered the wisdom teeth among the best in the mouth; thought they had fewer weak points than the other molars; said the first molars are quickly formed and quickly lost, whereas the wisdom teeth are longest forming and can be longest kept; thought their loss generally due to lack of care; extracts the first molars when the second ones come in; considers them the worst teeth in the mouth; in filling, uses adhesive gold exclusively; spoke of the defects of approximal fillings at the base, and considered it as probably due to soft foil. In such cases cuts out the softened portions, and fills with amalgam, leaving the firm part of the gold standing; thought not the slightest harm could come from putting gold and amalgam in contact. As to dental instruments, he thought them poorly

tempered; considered it a great fault, and asked if there was no talent in the profession that could produce a good instrument.

Dr. Bronson thought there was much truth in Dr. Clowes' remarks in reference to instruments; and could not get from the depots such as he desired, therefore tempered his own; does this by plunging in sperm oil and lamp-black; used lamp-black to make the oil thick.

Under the head of "Incidents of Office Practice," Dr. Bogue, referring to Dr. Clowes' advocacy of the superiority of the wisdom teeth, spoke of the well-known effects upon the teeth of early cutaneous diseases, as measles, scarlatina, etc., and thought that the wisdom teeth, being more slowly developed, and running the gauntlet of a larger number of these diseases, would often be injuriously affected by them. Referring to the extraction of the first molars, he said that vocalists never reach a high degree of eminence if the teeth are not all retained and the arch kept perfect. As regards what Dr. Clowes calls "alveolar calculus," he does not recognize the lining membranes of the socket as capable of secreting calcific matter. He related a case of a young lady whose teeth had been filled and re-filled by a fine operator, and yet decay constantly appeared around the approximal fillings. Had never had just such a case, except one ten or twelve years before. Believing it impossible to save them by filling, he chiseled the approximal surfaces on the lingual side, in accordance with Dr. Arthur's method, so that the brush and tongue would keep them clean. In cases like this he thought it well to consider this method of separation as compared with that of restoration by filling. He thought our Maker knew how many teeth to put in the mouth, and what shapes they ought to assume; but, at the same time, whether in accordance with the Darwinian hypothesis or not, he was aware that modern civilization had done much in changing the shape as well as the structure of the teeth, and thought we should, while considering the ideal shape of a strong tooth, which could be restored, also bear in mind that of a frail one, which might not bear restoration. Between these extremes he thought there existed all varieties, demanding the exercise of an educated judgment in their treatment.—*Cosmos*.

STATE DENTAL SOCIETY OF PENNSYLVANIA, JUNE 13TH, 1871.—Dr. S. H. Guilford, of Lebanon, read an essay on "Mechanical Abrasion of the Teeth," and recommended as a remedy the wearing of a metal plate covering the roof of the mouth and the abraded surfaces of the teeth.

Dr. Moore thinks rubber would be a better material on account of its being a non-conductor.

Dr. Robbins said that often in these cases we find apparently a chemical action and destroying influence set up, so that some teeth are worn away more than others; and formerly made a cap to cover and protect the tooth until secondary dentine was thrown out; now prefers filling with gold, using the mallet, and, if necessary, destroying the pulp.

Dr. McDonneld prefers filling such teeth, but does not advocate always building to the original length, and restoring the contour; frequently simply fills flush with the edge.

Dr. Hoffer thinks the abrasion of teeth is not caused solely by the chewing of tobacco, but that it produces a disorder of the nervous system, which causes the grinding of the teeth during sleep. He thought the attrition was not due so much to the small particles of mineral substance in the tobacco as to its chemical influence.

Dr. Guilford said that, in one of the cases mentioned in his essay, the teeth were very strong and dense. The cause of the upper teeth becoming more abraded than the lower, is due to the latter being smaller, and having less of the dentine exposed.

Dr. Moore said that we very rarely see cases of abrasion in the mouths of females.

Dr. Welchens thinks that when there is no direct mechanical cause, it is by reason of a reduction of vitality, especially as persons advance in life; thinks that in most cases the abrasion is attributable to the use of tobacco.

Dr. Robbins said that abrasion sometimes continued after persons quit the use of tobacco.

Dr. Welchens had not noticed this, but thought it was due to decreased vitality after the person had discontinued the use of tobacco.

Dr. Moore in one case found the teeth had been much decayed, but decay had ceased, and what was naturally the softest had become the hardest.

Dr. McDonneld thinks tobacco has more to do with abrasion than anything else. Abrasion, however, sometimes occurs when no tobacco is used, but is not so extensive.

Dr. Elliot recalled a case where the abrasion continued after the discontinuance of the use of tobacco.

Dr. Robbins recalled the case of a physician who had used tobacco for forty years, and after discontinuing its use his teeth wore down more rapidly than before. In the South, where persons do not allow the tobacco to lay quietly in the mouth, but keep it constantly in motion, the abrasion of teeth is the rule, and not the exception.

Dr. Young thinks the reason of the upper teeth becoming more abraded than the lower is by reason of the lower jaw being movable, and the lower teeth not having so much of the dentine exposed. The lower teeth operate upon the upper as the hammer upon the anvil.

Dr. Samuel Welchens read an essay on "Definite Human Structure." The essayist entertains the opinion that the teeth of man are the highest type of organized matter.

Dr. Barker thinks the dentinal structure of man is not superior to that of the gorilla. The nervous system, too, in some animals is similar to man; that of the chimpanzee resembling that of man, and not only this, but the vocal organs also are similar. The dog has memory, shame, and fear, as in man, differing only in degree. There is a retrograde metamorphosis in the human teeth. There are no really perfect sets of teeth.

Dr. Welchens denies that there is retrograde metamorphosis. By proper modes of living there is sufficient power in the system to develop a perfect denture.

Dr. Barker said that if we improve the general health of patients, and secure increased nutrition, perfect teeth could finally be obtained. We must also advise against the marriage of unhealthy persons. The jaws of Americans are almost universally narrow, and it is almost impossible to preserve all the teeth. The second molars are usually better than the first, because, just before the development of the first molar, there is a greater demand for osseous material to build up the general structure, and, as the teeth are only appendages, they suffer; thinks best therefore to sacrifice the first molar sometimes when there is an overcrowded condition of the jaws, and especially when the tooth is very defective.

Dr. Robbins thinks that the first molar should by all means be preserved to secure a better development; does not advocate its removal in the correction of irregularities; and if it be defective, would remedy the same by proper treatment and filling.

Dr. Moore thinks that the extraction of the six year molars should be only resorted to as the lesser of two evils,—the deterioration of the teeth and the narrowing of the jaws.

Dr. McDonneld advocated the preservation of the first molar. If the attempt to save it failed, the treatment was not commenced early enough.

Dr. Guilford thinks that when defective six-year molars are retained the other teeth are injured; does not wish it so, but thinks, with Dr. Barker, that the day will come when such defective first molars will be extracted.

Dr. Essig explained the manner of using Dr. Jack's matrix. Teeth are first separated by chisels or otherwise. He uses Turkish boxwood wedges. Form the cavity, smooth the surfaces, and insert the matrix. When an approximal tooth is out, take an impression, and make a matrix of rubber, fitting up against the surface of the tooth to be filled, or against the matrix, placed in position, and extending to the nearest tooth. When a tooth is isolated, a band of a suitable material may be fitted around it. With the matrix a filling may be made more solid than in any other way.

Dr. M. H. Webb read an essay on "Anæsthesia."

Dr. Guilford coincided with the essayist; had used nitrous oxide principally; thinks it the best anæsthetic we have for minor operations, and safer than ether or chloroform; thinks it more convenient to use the small rubber bag, but has a gasometer. In this he differs from the essayist.

Dr. McDonneld has given ether, chloroform, and nitrous oxide, but deprecates the use of any anæsthetic when it can be avoided; has noticed injurious effects following the use of these agents. These effects may not be noticed until some time after the administration of the anæsthetic.

Dr. Welchens. Nervous affection sometimes follows the extraction of teeth without anæsthetics. He sanctions the views of the essayist, thinks the shock of the operation in most cases is more injurious than anæsthesia; uses a mixture of ether and chloroform; has not administered nitrous oxide to any great extent, and does not succeed so well as with the mixture of ether and chloroform, having administered the latter for about twenty years. He related a case of a young person whose nervous system was much excited; extracted two teeth by the use of chloric ether when the excitement subsided; no bad effects being developed until one week later, when increased nervous excitement ensued, amounting almost to a spasm. This effect lasted some time, and seems to have been the result of the shock in a somewhat deranged nervous system. In diseases of the heart he would almost as soon give ether as perform any extended dental operation without it, because the shock might be quite as injurious. With the mixture of ether and chloroform, and having plenty of water at hand, with a recumbent position, he feels safe in administering the agent to almost any one.

Dr. McDonneld thinks the use of anæsthetics encourages the useless and reckless extraction of teeth.

Dr. Webb. The fault lies with the operator and not with the anæsthetic.

Dr. Moore prefers ether, as it does not leave the patient so depressed

as does chloric ether or chloroform; related a case in which he administered ether, which was followed by undue excitement, preventing the extraction of the teeth; permitted the effects to pass off, and administered chloric ether the second time. The patient began to sink, when water, artificial respiration, mustard plasters, etc., were brought into use, and after some time all was well.

Dr. Webb thought the over-stimulation of the cerebrum, twice in succession, was the cause of the trouble in the case related by Dr. Moore; for although ether acts first as a stimulant, it also acts with equal power as a sedative. In carrying the anœsthesia thus far the operator should hurry past this point and involve the cerebellum and pons varolii. As a general thing, he would rather trust a dentist to administer an anæsthetic than a physician; and does not think it augurs well for the advancement of the profession where a dentist calls in a physician to administer these agents for him.

ODONTO CHIRURGICAL SOCIETY, EDINBURGH, SCOTLAND, 11TH MARCH, 1871.—We acknowledge the receipt of the Transactions of this Society for March, from which we make the following extracts:

The President called on Dr. Hogue for his paper, "Remarks on Filling Teeth with Gold."

Mr. President and Gentlemen,—I have chosen this subject with the view of showing some instruments and appliances, which I have had an opportunity of seeing recently, and which, being new to me, I thought might interest you. Before doing so I would like to give a little history of my own experience in gold filling.

It is sixteen years since I commenced to use gold in filling teeth, and at that time, and previous to that time, soft or non-adhesive gold foil only was used. Gold foil at that time was principally used in the form of rope, made by rolling up a strip of gold foil. The instruments used were wedge-shaped in the blades, and not serrated at the points, and it was a very difficult matter and required great skill to fill the cavity well with these instruments.

A very great improvement was introduced about this time, namely, serrating the points of the instruments; this facilitated the introduction of the gold very much. I used the rope for some years in filling teeth, with the smooth-pointed instruments, but soon adopted the serrated points.

My next alteration was in the adoption of cylinders, with the formation of which you are all familiar, and found this a decided improvement on the rope.

About eight years ago I was shown a new form of instrument and point, adapted for working soft foil rolled into round balls of different sizes. This instrument was intended to be held like a writing-pen, and the gold was packed into the cavity with a twisting kind of motion. The blades of this instrument were small, and bent at different angles with the shaft; they were square shaped, tapering to the point, which was rubbed on an oilstone so as to give it four sharp edges. Several of these I hand round. Nothing, I think, could surpass this instrument and way of working for producing good soft foil fillings. The blades are easily made, and easily kept in order by rubbing their surfaces occasionally on an oilstone.

I have become more and more convinced, however, from experience, that soft foil alone cannot altogether be depended on for preserving teeth on account of its liability to wear on the surface, where it is exposed to mastication. I allude more especially to lateral and compound cavities.

It is just exactly sixteen years since Dr. Arthur, at that time of Philadelphia, announced that he had discovered a new method of using gold foil, which was to pass the gold foil through the flame of a spirit lamp, and to pack it into the cavity with sharp serrated points. The term "adhesive" was applied to this form of gold. The merits of this form of gold are that the surface of fillings made of it is so hard it does not wear, and keeps such a good polish that food and other matters do not adhere to it; also that the filling can be built out to any shape. This adhesive property is also possessed in an eminent degree by sponge gold.

I have been more or less in the habit of taking advantage of this adhesive property of gold foil ever since its introduction, more especially in connection with soft foil, after filling the cavity as well as I could with soft foil, packing in the adhesive with sharp serrated points, or the instruments already handed round. This to a degree prevented the wearing.

I am convinced, however, that the best fillings are made by using adhesive gold entirely, either in the shape of foil or sponge gold.

There are some difficulties about using adhesive gold which tend to prevent its more general adoption. It requires a longer time to introduce the filling; it is more fatiguing to both patient and operator; it is more difficult to adapt the gold close to the tooth, and make good borders; it must be kept absolutely dry during the entire operation, as the least moisture is fatal to adhesion; and last, but not least, adhesive fillings must be more expensive than non-adhesive.

A great deal has been done by ingenious dentists to modify or overcome some of these difficulties. The labor and fatigue of the operator are much diminished by using the "automatic plugger." The one I

hand round is what is known in America as Dr. Salmon's. The blow can be made hard or soft by turning round the cover at the top. The shapes and serrations of the pluggers also have been so beautifully adapted to the purpose as to save much time and produce the best results. I hand round a series of points for working this kind of foil. They form what are known in America as Dr. Varney's points. I would direct your attention to what I have marked as foot instruments; they are remarkably well adapted for driving in layers of gold on the surface of the filling in building up what are known as contour fillings. I would also call your attention to the serrations on the instruments, which are beautifully fine, and leave the gold after it is packed as nearly solid as possible, and absolutely free from pits, which is essential to first-class work.

Considerable difficulty is experienced in commencing adhesive gold stopping; in getting the first portions of gold to remain firm, any motion in these first portions is fatal to a good stopping. To prevent this, one or two small holes or pits should be drilled into the tooth where the filling is to be commenced; these can be easily filled, and once the gold is packed into them, if moisture is prevented from reaching the cavity, the remainder of the operation becomes comparatively easy.

The necessity of keeping the filling dry during the entire operation has given rise to a very ingenious contrivance, called the rubber dam. A little square piece of sheet india rubber, not much thicker than writing paper, two thicknesses of which, as specimens, I hand round, in which two or more holes are cut, is slipped over the tooth to be filled, and one or two adjacent ones. A ligature of well-waxed floss silk is then passed round the teeth, and the rubber drawn up close to the gum; the ligature is then securely tied. The upper corners of the rubber are kept out of the way by an elastic band passed over the crown of the head, the end of which is attached to adjustable clamps. By means of this contrivance the mouth can be closed and saliva swallowed without danger of wetting the filling. By means of it also the whole of the cervical wall of the cavity can be exposed in lateral cavities, even when it is below the level of the gum. I hand round a lower jaw with the dam adjusted.

In filling front teeth with adhesive foil great care is required to get the gold close against the tooth substance to prevent discoloration. In using soft foil one bit of gold slides on another, and the whole stopping is pushed against the walls of the cavity, when additional gold is packed into the centre of the filling, so that the gold comes to be very close against the walls of the cavity. But unless the adhesive gold is packed close against every part of the wall as you proceed, no amount of after-packing can change its position. I think this will account for the blueness of which

some complain in front teeth after being filled with adhesive foil; but it is only the result of want of care.

The great superiority of adhesive foil is, I think, shown in the more modern way of operating on lateral cavities in bicuspids and molars, namely, cutting into the cavity with chisels through the grinding part of the crown. This necessitates the exposure of a surface of the filling to great force in mastication, which is well borne by adhesive gold. There is no necessity either for having a definite retaining wall on the grinding surface, a little dove-tailing being sufficient; or, if the lateral walls do not admit of this, a hole can be drilled into a solid part of the tooth a little further back, the intervening part of the tooth cut out a little, and the lateral filling anchored into it.

In building up these large fillings the heavy gold foils will be found very useful. I have used No. 120, which is just like thin gold plate, and find it works very easily, used, of course, in single thicknesses.

I recollect at one of our meetings a gentleman asking, "How the Americans did those large gold fillings?" With adhesive gold and the rubber dam it is only a question of time and remuneration—two circumstances, however, which, I think, in this country are almost fatal to large good gold fillings. There are few who have any idea of the time required to complete a large adhesive gold filling; two or three hours or even longer, will be sometimes consumed on the mere packing of the gold, leaving out of consideration the preparation of the cavity, and finishing the filling. There are not many patients here who would submit to this, and comparatively few who put such a value on their teeth as to induce them to pay the dentist adequately for his labour and material. Moreover, it has never been the custom of this country to pay large sums for filling teeth, artificial teeth being what the dentist counts most on as the source of his income.

Dr. Roberts.—Mr. President, not having anything of importance or interest to show the members of this Society at this meeting, perhaps you would kindly allow me to take notice of two cases of vicarious hæmorrhage that I have met with since our last meeting.

A young lady, of about nineteen years of age, the picture of health, with a bright complexion, called to have a lower molar removed under the influence of nitrous oxide gas, which was done satisfactorily. This was in the morning, and in the evening a messenger was sent for me to come and see this young lady, as bleeding had broken out to an alarming extent. I called at once, and was much struck with the change of appearance of my patient; she had a basin before her containing a large

quantity of blood, and blood was flowing from the alveolus. The young girl was ashy pale, with a blueish ring strongly marked about the eyes; observing this appearance for the first time, I quietly asked the attendant if the young lady was at the time changing in health. I was told such was the case, and that she had lost a large quantity of blood during the day from the mouth.

Upon examining the mouth I found a large clot of blood half filling the mouth; having removed this and washed out the mouth and bleeding alveolus with warm water, I then gently introduced pledgets of cotton, steeped in Dr. Richardson's "xylo-styptic æther," filling up each fang cavity gently, but firmly, then laying a piece of cotton saturated with the styptic on the top of that pressed into the cavities, holding it *in situ* with a finger. In ten minutes all bleeding ceased, she was then removed to bed, but while doing so she fainted. She was carefully watched for some hours by myself, and all night by an attendant, but nothing further was required but careful nursing.

I cannot refrain, Mr. Chairman, of here speaking highly of this preparation of Dr. Richardson's; for my own part I feel an amount of confidence now, since we possess it, when these troublesome cases occur, that I never felt before, having used it in several cases with uniform success, either as spray, or, as in the above case, merely filling the cavities with cotton saturated with it, and then keeping gentle pressure until the bleeding is arrested. I never now have that anxiety and beating of the heart when my door bell is rung during the night, as some of you, as well as myself, have experienced under such circumstances, knowing I have a sure friend in this agent.

I may mention I have known of cases that have continued to bleed during the continuance of the menstrual period, only stopping with it.

I may take this opportunity of saying for the guidance of young practitioners, that I generally take a look for the characteristic signs seen about the lower eyelid. If I suspect they are in this state of health, I, if possible, dress the tooth and put off the extraction for a week or so.

In the above case I admit I was completely deceived; her complexion was so clear and rosy.

I may mention this patient, about three weeks before this attack of hæmorrhage, had a couple of molars extracted under the influence of the nitrous oxide gas, and experienced no trouble at that time from bleeding. She suffered so much upon this occasion, from so great a loss of blood, that it was fully a fortnight under careful treatment before she recovered its effects.

The other case, Mr. President, was that of a young lady, of about

twenty-two years of age, a daughter of a medical man in this city. She had a bicuspid tooth extracted while under the influence of the gas; little or no bleeding followed the extraction at the time, but, strange enough, exactly a week after the removal of the tooth a slight bleeding took place from the alveolus.

The remarkable point in this case was the fact that this patient had been under treatment for two years from the suppression of this natural discharge, and the interest in this case arises from the fact that when this bleeding came on was the proper period that the monthly change should have taken place.

I am hopeful, therefore, from this apparent effort of nature to relieve itself, she may soon be restored to health. I may once more say, and in conclusion, *no interference was made to arrest the hæmorrhage; it was* not to any great extent, and might prove beneficial by being allowed to flow in moderation.

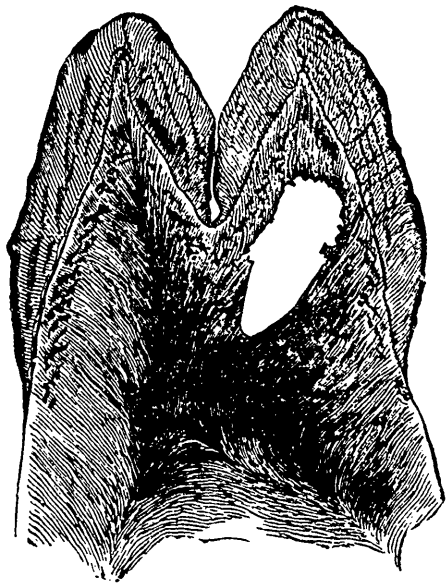
We all have been asked, I daresay, to press the gum together after an extraction of a tooth. It is an old-fashioned custom, but in my estimation a good one, as I have seen a good deal of trouble from bleeding kept up by the sharp edge of the process, which being pressed into its position the bleeding ceases without any other treatment in most cases.

SELECTED ARTICLES.

MICROSCOPICAL FISSURES IN THE MASTICATING SURFACE OF MOLARS AND BICUSPIDS.

By J. H. McQuillen, M.D., D.D.S., Professor of Physiology in Philadelphia Dental College.

In a previous communication attention was directed to the fact that the minute openings or fissures found in the grinding, approximal, buccal, palatine, and lingual surfaces of molars and bicuspids frequently lead to cavities of some size. Through the kindness of my friend, Dr. R. W. Varney, of New York, who placed in my hands some time since a number of microscopical preparations, I have an opportunity of demonstrating in the most conclusive manner the necessity of immediate attention to such cases.



In the accompanying illustration (which I had made of a longitudinal section of an inferior molar, as seen under an $\frac{1}{8}$ objective and No. 1 eye-piece, magnifying sixty diameters) it will be observed that a minute fissure, invisible to the naked eye in the section, extends from the bottom of the sulcus on the grinding surface of the tooth, through the enamel, almost to the dentine, and enlarging at the lower part into an oval cavity. This is entirely the result of defective formation, the enamel prisms having failed to coalesce at that point, and thus a condition is presented favorable to the retention of fluids and semi-solids, which undergoing decomposition would speedily destroy the thin septum of enamel covering the dentine. In the latter tissue, closely contiguous to the enamel, a number of black spaces (the *interglobular spaces*) will be seen. Here again is located defective structure and a prolific predisposing cause of decay. The large space represents a carious cavity commencing on the approximal side of the tooth.

In a paper read before the American Dental Association at the meeting held in Boston, August, 1866,* giving the results of a personal examination of the *interglobular spaces*, I remarked, "As evidence of the practical bearings of these investigations, it may be well to direct attention to the fact that the existence of the spaces in teeth which have completed their growth must be regarded as an *abnormal condition*, predisposing such teeth to decay, and that when either by mechanical action,

* Dental Cosmos, vol. viii. p. 113.

as by a fall or blow, or by the penetration of external caries such spaces are reached, the *disease here would run riot;* hence the importance of care on the part of patients and operators to have the most minute cavities filled; for though reached only through a microscopical opening, the result would be the same, while if protected from the action of external influences or the *exciting causes of decay*, this *predisposition* might remain dormant for a lifetime, as is sometimes the case with other diseases."

With no disposition to revive a useless discussion, or to dwell upon the very unreasonable, not to say absurd, objections and denials which were offered to the communication by doubtless well-meaning but mistaken men, at the same time I cannot but regret that they influenced the opinions of others who, reposing implicit faith in their acuteness and judgment, very naturally regarded the objections as of a valid character. until an opportunity for observation convinced them to the contrary. Such was the case with the gentleman who handed to me the specimen under consideration.

It is to be hoped that the illustration offered will teach a valuable lesson to those who have been in the habit of dismissing their patients with the statement that "there are some small cavities in the teeth which can be left without disadvantage until another time." It also shows most clearly the necessity of following up the fissures, which generally extend from a central cavity of decay in the grinding surfaces of molars; careless operators contenting themselves with only removing the caries from the central cavity, leave these fissures untouched, and, as a consequence, decay progresses unobstructed and unnoticed, until the tooth is rendered a mere shell.—*Cosmos.*

ARE ARTIFICIAL TEETH CAPABLE OF PRODUCING SALIVATION.

BY P. A. O'CONNEL, M.D., Boston.

My attention has been called to a case which points to the possibility of the occurrence of *salivation* and the *constitutional effects of mercury* from the use of artificial teeth, and the importance of the circumstance has seemed to be sufficient to justify a mention of it; so that inferences may become either corrected or confirmed by the observations of others of the profession.

The patient, in the case referred to, was a lady, who had used the artificial teeth that are now accused of having produced trouble between two and three years. Before using them, her general health was good. While using them, her health became poor [*wasting away*], and

proceeded gradually from bad to worse, resisting every mode of treatment. She exhibited no special cause of illness, until the occurrence of salivation and sore mouth drew attention to the teeth. Then it was found that the plate upon which the teeth were mounted, which was a suction plate of the red rubber kind, presented a corroded appearance on the surface which came in contact with the roof of the mouth. And the circumstance that this kind of rubber plate is made up to a great extent of the sulphuret of mercury, suggested the possibility of the general ill health resulting from this cause.

The teeth were removed of course. The mouth became well speedily; and without any further treatment the lady's general health began to improve immediately in a very remarkable manner.

Upon mentioning this case to some medical gentlemen, it recalled to the mind of one of them another instance of salivation, resulting, apparently, from the same cause. Here, too, the disuse of the red rubber plate allowed the mouth to become well; and a set of teeth mounted on dark rubber was used afterwards without any inconvenience resulting.

The red rubber which is used in making the plates upon which artificial teeth are mounted, receives its color from the sulphuret of mercury, which is mixed with it very intimately, and constitutes generally about one-third of the mass. This preparation of mercury is very insoluble, resisting, in the chemist's laboratory, the strongest acids; and it is difficult to understand what combinations can have taken place in the mouth to render it liable to absorption.

It is rendered soluble by mixture with the sulphide of potassium, but one would suppose that it would be protected sufficiently by the rubber with which it is thoroughly mixed and baked.

Are artificial teeth, under any circumstances, capable of producing salivation? *Boston Med. and Surg. Journal.*

HYDRATE OF CHLORAL.

The past six months have produced a multitude of articles bearing upon the therapeutic value of this recent addition to *Materia Medica.*

Professor S. G. Armor (*Michigan University Medical Journal*) gives the following conclusions in regard to its action. We give them entire, as they seem to us, in the main, to be very just:—

1. Although a valuable sedative in cases of morbid wakefulness and general irritative action of the nervous system, it cannot always be relied on as a substitute for many of the old and well-tried anodynes and nervines of the *Materia Medica.*

2. In a certain proportion of cases it produces unpleasant symptoms, such as gastric distress, difficult breathing, partial paralysis of the organs of deglutition, great restlessness, and sometimes coma. These are largely exceptional, however, to its general action.

3. These unpleasant symptoms are, in many cases, obviated by administering an opiate in small sustaining doses to the nervous system before administering the chloral—say one-twelfth of a grain of morphine or its equivalent of some other preparation of opium. The action of small stimulating doses of opium, administered twenty or thirty minutes before the chloral, appears to be antagonistic to its sometimes depressing effects.

4. The action of chloral is somewhat peculiar on the brain; it intensifies the action of alcohol by adding to its intoxicating properties. Great care should be exercised, therefore, in administering both agents at the same time, and in administering chloral with chloroform or ether.

5. It also intensfies the action of the so-called "*delirients*" of Headland, namely, belladonna, hyoscyamus and stramonium. Full doses of neither of these articles should be administered with full doses of chloral.

6. It is very sensitive to certain chemical re-agents, especially those of organic origin. It should not, therefore, be allowed to stand long dissolved in syrups; nor should it be combined in any mixture containing organic matter. It should be dissolved in simple water, and, like all salines which act by absorption, should be well diluted either before or after taking.

7. It should never be administered on a full stomach, neither an empty one; intermediate periods are better. A good rule is to select a period when the stomach is empty, and have the patient take a small crust of bread, or a cracker, ten or twelve minutes before taking the chloral.

8. Its action is somewhat transient. In two or three hours the dose must be repeated if the first produces no effect, or if we desire to protract the action of the drug. In urgent cases two or three doses can be administered at shorter intervals.

9. The dose varies in proportion to the amount of irritatibility, or morbid wakefulness. Eight or ten grains, repeated every hour, or a larger amount every two hours, until twenty or thirty grains are taken, is usually sufficient to secure the specific action of the drug; although in severe cases much larger doses may be administered with safety. In a severe case of delirium, occurring during the progress of a continued fever, in which all the usual resources for securing sleep had failed, I advised that the patient take a drachm of the chloral at one dose. It

had no other effect than that of producing quiet and refreshing sleep. The patient had taken several twenty-grain doses without any effect. These large doses, however, are not advisable, and should never be resorted to except in desperate cases, when other means and smaller doses had failed.

10 The protracted use of the drug is not advisable. It should be prohibited. It weakens the general vital forces, destroys the healthy tone of the nervous system, and tends to the production of anæmia.—*N. Y. Med. Jour.*

CONSERVATIVE DENTISTRY.

By GEORGE H. CUSHING.—Read before the Chicago Dental Society.

The subject assigned to me for this evening, is one, the importance of which I think is not properly appreciated, and in attempting its treatment, I am met at the outset with the inquiry which I know is made inwardly by many minds if not outwardly by many lips: "What is conservative dentistry?"

I should not perhaps have thought it necessary to attempt any elaborate definition of the term, if I had not heard two gentlemen of the profession, among the most intelligent and advanced of my acquaintance, making the inquiry as to the meaning of the term which constitutes the heading of this paper; so, though the matter seemed so clear to my own mind, I have upon reflection concluded that it is very probable that the term may convey little significance to many minds, and therefore demands that it should be as briefly defined as is consistent with a fair understanding of the subject.

Conservative is defined by Webster as "having power to preserve in a safe or entire state, or from loss, waste or injury; preservative." It comes from the Latin "con," and "servare," to keep, to guard!" The term has been greatly in vogue for several years past, applied to general surgery, though it is doubtful if any uniformity of definition prevails among medical men.

Prof. Rae, of Rush Medical College, says: "Conservative surgery is conventional, meaning as I understand it, preservative surgery, and is generally applied to the place between extremes. It is usually applied as antipode to heroic surgery."

Professor Gross in his work, in the chapter on "Excision of Bones and Joints," says: "Excision differs from amputation in this, that while in the latter the bone is removed along with the soft parts which surround it, in the former the bone alone is cut away, the integuments, muscles

and other tissues being retained, in order that they may contribute to the future usefulness of the limb, or in other and more comprehensive language, while in the one case all the structures are destroyed, in the other as many as possible are preserved. Hence this department of surgery has very appropriately been denominated 'conservative surgery,' and it is most gratifying to know that it constitutes one of the leading characteristics of the healing art of the present day." He thus seems to confine the term in its application, to that especial division of surgery.

Again, Dr. Davis, of New York, has published a work entitled, "Conservative or Mechanical Surgery, as exhibited in remedying some of the mechanical causes that operate injuriously, both in health and disease." Thus, there would seem to be no authoritative definition of the term among surgeons, yet I believe there is a broader and deeper significance to the term than any of the definitions above given would seem to imply, and one which is generally felt among surgeons, although perhaps difficult to define. I think it clearly has reference to those advanced methods of practice, which have of later years become so general in any and all departments of surgery, which tend to lessen the frequency of operations involving great loss of structure, either by substituting less formidable ones, or by anticipating disease, so that in many cases no operation at all is necessary.

The surgeon following this higher order of practice thus becomes the conserver—preserver—his province is, "to keep," "to guard"—not only the life and health of his patient, but also the integrity of his body to the very fullest extent.

If, then, there is this important application of the term conservative in relation to general surgery, how much more emphatically should it apply, as in reference to the specialty of dentistry.

It is true that the dentist has not to operate on organs or parts of the body involving as a rule, such important relations to the vital functions, or to locomotion, or to general usefulness, as the general surgeon has; nor do his operations often threaten danger to life or general health, but his field is a very important one, and upon his successful operations, or otherwise, often depends to a great extent, not only the comfort, but the health of his patient, and his skill should be as conscientiously applied as though he were operating on more vital organs. He is constantly called upon to decide between the immediate loss of organs of the economy, or the effort to preserve them In his case it is utter loss of those organs on the one hand, as against the attempt to preserve them on the other, while there is not, as is often the case with operations in general surgery, the danger of fatal consequences to be weighed in forming a decision.

There are those in the profession who hold that there is a moral obligation binding upon all men, not to mutilate the human body in the slightest degree beyond what is actually demanded as a "dernier resort," to remove otherwise incurable disease, or in the case of extreme suffering, or the removal of obnoxious deformities. Such men will tell you "it is a sin to extract a tooth. Without taking the extreme position which this class occupy, I will still say that there is more truth in their assumptions than the profession are generally willing to acknowledge. The province of the dentist is essentially that of a "conserver"—a "preserver." He is in duty bound "to keep" and "guard" that portion of the human body which it is his province to treat, as much as for the general surgeon to save to the uttermost that which lies within the province of his art to treat.

Let us then inquire as to the present status of the profession as regards this sort of practice—how we stand as in relation to the past, and what can be forecast regarding the future—touching briefly some of the prominent points in relation to the subject which seem to demand especial consideration.

The time was, and not more than twenty years ago, when the prevailing practice was to extract most aching teeth, except, perhaps the six anterior teeth in either jaw,—or, if such teeth are not extracted, the majority of honest practitioners give little encouragement to the patient for any prolonged usefulness of a tooth, the pulp of which had to be devitalized before filling. Dating perhaps from that time, advancement began to be apparent in the methods of treatment of teeth with exposed pulps, and greater thoroughness in the operations of removing the devitalized pulps and filling of the pulp chamber and canals, brought with it greater encouragement as to this method, until a few years later the thorough and conscientious practitioner could honestly advise his patients to have this operation performed, as promising reasonably of success. This was eminently an advance in "conservative practice," and so marked that I doubt not all of you here present can corroborate the statement, that while, even ten years ago, the usual remark of the patient while coming to us with an aching tooth was: "Doctor, I have an aching tooth, I want you to extract it,—that to day the large majority say instead, "Doctor, I have a bad tooth, I wish you would see if you can do anything to save it." And while two years ago it was very difficult to persuade some patients—and very many, too—to consent to the attempt to save the tooth by devitalization of the pulp, to-day it is sometimes difficult to persuade people to have a tooth extracted, even when there is obviously no other course to be pursued.

This is evidence of remarkable advancement, for when you find the people educated to the point of demanding such operations, you may be sure that the operations have met with favor, through the established evidence of their reasonable success.

Recognizing the demands of this conservative principle, earnest men in the profession, even as long ago as twenty-five years, or thereabouts, turned their attention toward devising some method of treatment of exposed pulps, which should render it possible to fill such teeth, and retain at the same time their vitality. Various methods of capping exposed pulps were pursued, and some with occasional seeming successes, but after years of experiment and experience, the profession came to decide generally that the capping of exposed pulps was not a reliable practice, and it was in the main abandoned, and devitalization and extirpation held almost undisputed possession of the field until the introduction to the notice of the profession of the method of capping with oxy-chloride of zinc. This method has seemed to prove thus far, more successful than any previously tried, and although it has not yet been tested by sufficient length of time to justify us in pronouncing fully upon its merits, it certainly can be said to give great promise for the future, and through its aid we may reasonably hope to arrive at the highest point to be attained in "conservative practice."

These are the most striking features which present themselves in a review on this subject, but there are others almost as important, and in connection with which there are some points which especially demand our consideration.

The introduction of cohesive foil and gold, inaugurated a marked era in dental art, rendering possible the performance of very many operations which otherwise, or with soft foil, could never have been performed. In this way the crowns of teeth can be restored, and the organs rendered almost as serviceable as the natural ones, and the operations can be rendered reasonably permanent, while otherwise many such teeth could not be successfully treated, and would early fall a prey to the forceps, and others could only be treated with partial success by the use of amalgam, that always uncertain material, even if there were no other objections to its general use.

The class of operations here referred to have frequently been derisively termed "*fancy operations.*"

They are fancy operations in just the sense that the "excisions of joints" are fancy operations, as compared with operations of amputation of the entire limb, of which Professor Gross—as before quoted—says, "It is most gratifying to know that it constitutes one of the leading

characteristics of the healing art of the present day." I am glad to be able to say, that the same expression may be used as applied our specialty, for such operations are eminently conservative, and are daily coming to be better understood and more justly appreciated.

The improved methods of manipulating cohesive foil, together with the superior character of instruments of late years introduced, which have come to us as the result of earnest thought and experiment, tested by experience from leading men in the profession, leave no excuse for most men to use any other material than gold for filling in a large majority of cases. And yet, notwithstanding the great advance which it has been affirmed has been made toward true conservative practice, we find to-day, very often in large cities particularly, a class of operators, and first-rate operators as well, who use amalgam to an alarming extent. Men who command first-rate fees too.

You will often hear such men say, "I frequently hear Dr. A. or B. charging forty, fifty or sixty dollars for an operation, but I never could bring my conscience to the point of making such charges." To those acquainted with the operations of such men, the reason is very obvious—they never perform the operations which entitle a man to such a fee. In such cases they invariably use amalgam, when gold could be used to much greater advantage to the patient, and where, did they use the gold they would find that their consciences would not only allow them to charge such fees, but that they could not conscientiously perform the operations for less.

It is just here that I think a large part of the profession fails to appreciate the demands of the conservative principle; neglecting to do their duty by their patients, either through fear to demand a just recompence for their skill and labor, or from disinclinations to make operations demanding so great an outlay of time and nervous force. There are many practitioners who follow this course through ignorance, and sin blindly; but for such there can be no excuse offered, because if they attend the Societies faithfully, take and read all the journals studiously, and inform themselves as fully as they can, it will be made clear to them that such operations as those just referred to can be made with gold successfully, and of a much more lasting character than with any other material, and they should learn to do these things, nor rest satisfied until they can perform successfully the operations which so many around them have long been and are still constantly performing.

I wish particularly to call attention to this point, and not so much that of the younger members of the profession, as of the older—for the latter, as a general rule, the temptation comes with more force to shrink the

responsibility and fatigue of such operations, than to the younger members. The older members generally feel perhaps that their reputations are established, while the younger have theirs still to build up.

Again, the temptation comes to most of us almost daily to extract teeth which we feel assured may be preserved by careful pains-taking treatment.

We dread to undertake operations which we know will be tedious and discouraging, both to the patient and to ourselves; and so many times we try to convince ourselves against our real convictions, that the best we can do for our patients is to advise extraction. This we surely have no right to do, for we are not thus doing our highest duty—if there is anything higher than simple duty—and that duty is to be found in simply living up to the conservative principle.

It may be safely affirmed, as a general rule, that where there is reasonable hope of ultimate success, the attempt should always be made to save a tooth, and it should be restored as fully as possible to its original usefulness. Anything short of this for our aim is not truly conservative.

These are the main points to which I desire to call your attention, but it must not be forgotten that prevention is better than cure, and that the highest expression of conservative practice will be reached only when we can successfully address ourselves to prevention rather than cure.

What I have said imperfectly upon this subject has been with a ew to enunciate a great principle, and is not to be understood as condemning *in toto* certain practices, as for instance, the use of amalgam, which, under certain circumstances is unquestionably invaluable, or with reference to extraction, for clearly that is frequently demanded. But it is affirmed that according to our light our endeavor should always be conservative.

The mistake must not be made in the application of the term conservative, in its sense of being opposed to change or innovation—which is one of its definitions—for conservative practice in surgery or any of its branches depends for its very life upon change and innovation—it is essentially progressive.

The endeavor has been made to place this subject before you in a manner that might be comprehended, and with the hope that the importance of it might be impressed upon your minds. In that hope I shall leave the subject, summing up briefly the definition of conservative dentistry as the conscientious application of the highest attainments in our science and art, tending always to the conservative—the preservation of the teeth in a safe or entire state, keeping and guarding them from greater loss of structure than is absolutely essential they should suffer in the process of restoring and saving them.

The advance which has been made in this direction during the past ten years, gives us great encouragement to hope for the future, that conservative dentistry will ultimately attain to a near approach to perfection, and rank deservedly among the highest specialties of surgery.

To this end we should not forget that every individual owes it to his profession, himself and the public, to advance by every means in his power, the science and art of his chosen calling, that that day may the sooner arrive when conservative dentistry shall be crowned with the well-deserved praise of carrying healing and beneficiency on its wings.—*Missouri Dental Journal.*

ON THE REPLANTING OF TEETH.

By GEORGE T. BARKER, D.D.S.

[A paper read before the Southern States Dental Association, Charleston, April, 1871.]

Perhaps no subject at the present time is attracting more attention among the advanced thinkers in dentistry than that which is the subject of this paper: for not only does the theme open up a vast field of study and conjecture how far, and how frequently, such a mode of procedure may be practicable, but it brings us naturally to the study of the pathological changes which arise from such action, and the relation which the replanted tooth bears to the rest of the economy. We are led to study the physiological as well as the pathological changes which take place in that remarkable membrane, the periosteum—a membrane whose agency, recently recognized, as a bone producer, can be said to have remodelled a branch of surgical practice during the last few years, having thus effected the preservation of many limbs that otherwise would have been amputated, and destroyed the usefulness, if not the life, of many a patient. The subject of replanting abstracted teeth is not new in dentistry; in many works of old writers we find a short reference to this subject, a summary of which may be stated as follows: If a wrong tooth has been extracted, or a tooth has been knocked out, it should be washed, the socket cleansed and the tooth replaced. Some believed that union of the separated pulp in the tooth and its former connection took place, because they found no discoloration subsequently ensue.

This view obtains to some extent at the present time, for we occasionally see such assertions in articles in dental journals, though in my judgment the position is erroneous, and cannot be supported by any reliable evidence or probable theory, for reasons which I shall present hereafter. But it is not alone in dental works that reference has been made to this subject, for our magazines have conntained from time to time articles where

success is chronicled as the result of replanting extracted teeth. Generally, the authors have resorted to this mode of procedure when teeth have been knocked from their sockets by accident, and I doubt not that all within the hearing of my voice, who have been in practice for a considerable number of years, will remember such attempts in their own experience followed by varying successes. Though these cases have been recorded, the question whether or not teeth should be extracted for the removal of some obscure and otherwise (with our present knowledge) incurable disease, has not as yet received the attention which it deserves, and has only been slightly referred to in brief communications, with which I am familiar. My object, however, at this time, is to direct the attention of gentlemen present to a more advanced step in this direction, and urge upon all to prosecute experiments in this particular field, viz: the extraction and replanting of teeth as a means of arresting incurable dental diseases. I will detail, as an example, the following case, which has received treatment at my hands:

Miss H——, aged seventeen years, of a sanguo-bilious temperament, and decidedly healthy organization, presented herself for treatment for alternate face and toothache, in July, 1870. She was at that time residing at Long Branch, N. J., a popular sea-side resort on the Atlantic coast, and as I had made a careful examination of her teeth but a few weeks previously, which, with another unsuccessful search at that time for exposed pulps or dental irritation, led me to fly to that frequent statement of the bewildered physician and dentist, viz: that she was probably suffering from neuralgia, and had better see her physician and obtain some appropriate remedy. This request was complied with, but without relief being obtained from a pain which partook of the nature of tic doloureux, but which seemed to be most severe in the lower teeth of the right side. In a week she again presented herself, having suffered greatly. On making at this time a careful examination of her lower teeth, I found slight dental irritation at the root of the right second lower molar. This tooth had a small gold filling upon its grinding surface, and injections alternately of hot and cold water demonstrated the presence of an irritated pulp. My first step in the treatment was to remove the filling, and, if possible, expose the pulp. This I could not succeed in doing, as the attempt gave so much pain. Failing in this, the cavity was filled with a pledget of cotton saturated with carbolic acid, and covered with Hill's stopping to prevent irritation from thermal changes. The carbolic acid was used with the object of inducing union between some of the elements of the tooth bone, as it is believed that, under favorable circumstances, carbolic acid will unite with albumen,

forming the carbolate of albumen, an insoluble substance which will protect parts from irritation, and which is hence used for the treatment of sensitive dentine. Finally, blood was freely drawn from the gum over the affected root, and after the bleeding had subsided, the gum structure in the neighborhood was painted with the following preparation, which I have used in numerous instances with most favorable results:—

℞.—Tr. iodinii, fl. ʒ iv;
Etheris, fl. ℥ i.—*Misce.*

The object of taking blood from the neighboring parts was to relieve the distended vessels of their accumulated contents; that of applying the ethereal preparation of iodine was to favor absorption of any effusion, the product of inflammatory action, a result which is more frequently obtained with this substance than with any other with which I am familiar, though care is necessary in its use not to allow the cheek or lips to touch the gum until the ether has evaporated, leaving the pellicle of iodine intact, or blistering of the parts will occur.

The treatment, however, was entirely unsuccessful, as the pain continued as bad as before, particularly at night. After a few days, the carbolic acid and gutta percha filling were removed, and the ordinary arsenical paste introduced, for while it is a principle that the paste should not be introduced until the inflammation has subsided in a pulp, as absorption will not readily take place in inflamed parts, yet occasionally the application will excite so much irritation that the pulp will die from over-stimulation. In this case there was a thick covering of bone protecting the pulp from the arsenious paste, and absorption would have to take place through this plate before the pulp could be influenced. The introduction of the paste only addedto the pain, and though retained for some forty-eight hours, did not in any way diminish the sensitiveness of the pulp. The carbolic acid and Hill's stopping were again introduced, only to be followed by the same result as above stated. At this time the young lady had become so much worn down from loss of sleep that resort was had to the syrup of the hydrate of chloral as an anodyne, the following prescription being used:—

℞.—Chlorali hydratis, ʒ ss;
Aquæ distil., fl. ℥ iv;
Syr. aurant.,
Mucil, acaciæ, ää. ℥ ss.—*Misce.*

A tablespoonful was given at night. And I would here state that though used very frequently for six months by this young lady, it was not found necessary to increase the dose, as a tablespoonful at night would cause a good night's rest to ensue, while no headaches or other

unpleasant result were present the succeeding day. It is too much to claim that the continued use of this anodyne would present the same peculiar advantage in all cases, as we must ordinarily expect to resort to an increase in quantity and frequency of doses, the longer any sedative is used.

The pulp paste was again introduced, was retained for forty-eight hours, though she suffered excruciating pain, but was finally removed, the pulse still being as sensitive as ever. Resort was now had to an anæsthetic; the young lady was placed fully under the influence of chloroform, (as her friends preferred that anæsthetic, though my own preference is always for ether,) the pulp cavity was drilled into, and the living pulp wholly removed. Of course, my belief was, that the trouble would now end. The pulp chamber was left open; the gums thoroughly painted with officinal tincture of capiscum, and the patient dismissed with the assurance that all pain would in a short time cease. The next day the tooth was as painful as ever, the inflammation of the periosteal membrane as great as before, the tooth was elongated, and there was no improvement whatever over the former condition.

The following treatment was then resorted to: one-sixth of a grain of morphia was injected hypodermically over the root. This was followed by temporary relief only. Five drops of tincture of aconite root were then placed on cotton, and laid over the affected root; partial relief followed. The tooth was not constantly painful, but shooting pains would occur frequently during the day; no sleep could be obtained at night without using the syrup of hydrate of chloral, as the pain was generally constant at that time. In this way the tooth continued for a space of nearly six months, every effort being made on my part to reduce inflammatory action, and to have it terminate in resolution, and every agent with which I am familiar, that could possibly be used, was tried, unsuccessfully. An effort was then made about the first of the present year to ob in a termination of the inflammation by suppuration, in the hope that an abscess would be formed, which could be more successfully treated. Heat to the face on the affected side was tried, frequent use of hot water in the mouth, hot fomentations and cataplasms, all of no avail; it would not terminate in suppuration, but would simply ache! ache! In the whole of this time the young lady had never once asked to have the tooth extracted, but had borne the pain with a heroism truly wonderful, and which, in consideration of my numerous failures, entitled her to be considered the most courageous person with whom I had ever met in my professional experience. The determination was now made in my mind to extract the tooth, and, if practicable, replace it. Accordingly, chloroform was administered; the tooth was extracted; the end of the root (fortunately this second molar had the roots joined) was cut off, and the tooth was instantly placed in a solution of tepid water, fl. ʒ ss, carbolic acid, gtt.

v. The socket was wiped with the solution, and the blood carefully removed. A broach was introduced into the pulp cavity, which was found to be entirely free, and the tooth was carried into its former socket, the shape of which favoured its retention. The cavity through the tooth was left open, and the patient was dismissed. No after treatment except an astringent wash has been made use of, and no pain of any consequence has been felt up to this time. The articulation is perfect; the tooth is as firm as other molars in her mouth, and it is closed with a good temporary filling, which I shall in a short time replace with a permanent one of gold; and, much to my own and the young lady's gratification, her courage bids fair to meet with what, in her estimation, is a fair compensation for her sufferings. The part of the root removed (which is shown) presented these characteristics—the periosteum was greatly inflamed, but, just outside the apicial foramen, there was a small mass of apparent pulp tissue, having somewhat the appearance of an abscess, only smaller, and apparently solid in structure. This mass was placed beneath the field of a microscope, and was found to consist of a true pulp tissue, containing multitudes of calcareous granules. Here, then, was the secret of all my trouble; instead of a calcified pulp, as shown in these specimens, or nodules in the pulp, which many doubtless have seen, there was developed or deposited granular matter, which, so long as present, excited intense inflammation, first in the tooth pulp and periosteum, and lastly in the periosteum and tooth socket. The object in cutting of the root was to allow a place for the accumulation of the effusion which would certainly be poured out, as the result of the extraction, and which, accumulating, would tend to protrude the tooth from its socket, and interfere with articulation—a result which generally follows when teeth are replaced and this action is neglected, causing the tooth sooner or later to drop from its socket, or be a constant source of annoyance to the patient. My belief is, that the remaining periosteum on the root of the tooth is at this time living; that that membrane does not undergo molecular death so readily as other structures, and that under favorable circumstances vitality will remain. I have proved this position beyond the shadow of a doubt, in cases where teeth have been returned to their socket, and have subsequently been extracted, living periosteum being found upon them. That a separated pulp can unite to its former connection does not admit of a probability, for the retraction and contraction of the divided vessels would prevent such a result from being accomplished were union by adhesion possible; therefore, when a tooth is inserted, with the pulp remaining, there is every probability that alveolar abscess will occur, and the absence of discoloration is only an evidence that the absorbents have carried off the effete materials, the result of a disintegration of the pulp.

As a fitting close to this paper may we not assume that the transplanting of teeth opens to us a method of successfully treating some obscure dental diseases, and of combating intractable alveolar abscess, partial necrosis, exostosis, and perhaps other dental affections. It seems to me the answer must be in the affirmative.*—*Times.*

* Since the above paper was read, the corresponding molar on the left side, though comparatively sound, was likewise affected, and it, too, was extracted and replaced with the same success as above mentioned.

EDITORIAL.

SOLICITING PATIENTS.

It is a generally accepted maxim with all respectable physicians and dentists, that any advertisement, card, &c., which draws attention to special methods of practice or special reductions of price, whether fair or fraudulent, are unprofessional. Some time ago we discussed this subject pretty thoroughly in this journal, and Seneca's excuse for reiteration, that "a thing is never too often repeated which is never sufficiently learned," will justify us in again adverting to it.

Any ordinary advertisement, such as the simple name, profession and address, is no doubt a solicitation, but most of first class practitioners who even use this form, would, in most instances, prefer not to advertise at all, but may feel obliged to do so in self-defence. With this simple form, however, no one can fairly find fault, though some do.

But when these cards are carried around in one's pockets for miscellaneous distribution, and the individual is seen poking them into cars and conspicuous window panes; when friends are button-holed in the streets and several pushed into their pockets, and introductions are followed by the irrepresible presentation of a card and the orthodox remark "Any influence you can exert in my favour will oblige, &c;" when dentists "chum" with hotel-keepers and are fixtures of hotel doors and bar rooms, seeking notoriety and acquaintances in circles whose respectability is generally impugned; when packages of their cards are left in saloons and in the glass cases of shops, and the individual is everlastingly on the *qui vive* to obtain patients in every other way except through the channel of merit and modesty, then we have a kind of solicitation debasing to any gentlemen, and injurious to the name and fame of the profession. Against the whole low trickery—for it is nothing less—of show cases, golden tooths, extravagant multiplicity of sign boards, special advertisements, miscellaneous obtrusion of cards, hand bills and posters, let those who respect the profession frown; for such attractions we know, instead of being an indication of that similar advertising enterprise which in other businesses may be backed by real capital and worth, is almost invariably a sign of lack of ability in dentists who resort to their use. Let respectable practitioners educate the public in these points, and quackery will die of starvation, but so long as the people are left in ignorance, so long will flourish the race of dental charlatans and victimized fools.

If we expect to elevate and advance our profession in Canada we must individually examine our position in regard to these and other points of

ethics, and modify and remove objectionable associations, whose quackery is not one whit excusable because they have antiquity or example for their apology. When show cases and such traps are removed, when dental advertisements and dental door plates leave no impress of assumed superiority, when the expositor who calmly sat down and in one breath defamed the entire profession the better to extol himself—silly ass!—is defunct or repentant, when they who sin against the honor of the profession resolve to abstain, when we are satisfied to call ourselves Surgeon Dentists without an array of less common and more high-sounding appellations, when in fact, men aim to win position by merit, and enterprising zeal in their profession, then we may look for a Golden Age in Dentistry, and a Golden Age not so difficult to be brought about as at first we would conceive. Quackery has flourished in all professions and countries on the silence of its victims and the *ennui* of its foes, and if impostors who exist do not repent, then expose them vigorously and constantly before the public. The present state of affairs in Ontario and Quebec should effectually check any new additions to their ranks, if the Boards of Examiners are faithful.

We have digressed a little from the subject proper of these desultory remarks, but in fact, all these questions of ethics run into one groove, and we shall persistently persecute these tricks of quackery until their promoters swear "total abstinence," and the profession is purified of their contamination. "Whose head the cap fits may wear it."

B.

LYCOPERDON, OR PUFF BALL.

We ask our readers to give more than a passing notice to the article on "Lycoperdon, or Puff Ball," in the present number. We know from experience of its success in arresting alveolar hæmorrhage where the actual cautery, perchloride of iron, and all other means failed. Only one case (in the *Medical Gazette* of 1842) is cited where it seemed to fail. About a month ago, I used it in a dangerous case, which had resisted all other treatment, and it instantly arrested the hæmorrhage. It is the simplest and speediest styptic to be had, and ought to be not only in the office of every dentist, but in the hands of every physician and druggist.

Drs. B. W. Richardson and Snow made themselves insensible by its fumes, and the former narcotized over a thousand animals with its vapor, and operated successfully; the effect lasting, in many cases, for half an hour. Dr. Richardson frequently inhaled the fumes through a hookah pipe, letting them pass first through potash water to clear them

of carbonic acid. He recommended a slight inhalation from a common pipe, as a local anæsthetic or temporary relief, to those suffering from the pair of an exposed pulp.

Those who have not used it ought to have it on hand. Large quantities are found down about Murray Bay, and throughout the Eastern Townships of the Province of Quebec, and, indeed, in the vicinity of most dry and sandy soils.

B.

THANKS.

We are indebted to Dr. McQuillen for the cut on page 271.

MEETINGS OF THE ONTARIO BOARD AND SOCIETY.

We will devote the next number to a complete report of the meetings of the Ontario Board and Society, with the essays of Dr. Wood on "The Advancement of Dental Science," and Dr. Rowe on "Remarks on Filling Teeth," &c.

TO SECRETARIES OF DENTAL SOCIETIES IN THE UNITED STATES.

We are preparing a revised list of dentists on this continent, and would esteem it a personal favor if secretaries of dental societies throughout the United States would send us as complete a list of dentists in their state as they can find, whether members or not. We would be happy to pay the expense of transcription; or send the journal *gratis* to any one who will send us lists.

CANADIAN DENTAL RUBBER.—Arrangements have been made in Canada for the extensive manufacture of a superior vulcanite, made from the purest Para rubber, and with the very finest machinery. It will cost less than any imported, while it is known that it will be equal to any in the market, and superior to several. It will be in the market next month.

A PLEASURE TRIP TO QUEBEC.—THE LATEST.

We give the following gratuitous insertion. Its originality is refreshing this warm weather:—MONTREAL A QUEBEC—VOYAGE DE PLAISIR A QUEBEC.—Ce Billet donne droit au Porteur d'aller au No. 192 Rue Notre Dame, avant et après ce Voyage, pour se faire poser, orifier, plomber, émailler et extraire les Dents à des prix qui conviennent a toutes les classes de la société. A L'enseigne de la Grosse dent d'or. Vis à-vis Devins & Bolton. Même Batisse que J. Léveille, photographe.

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,

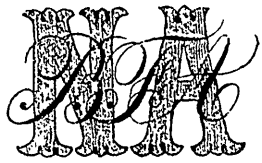
FOR PROTECTING THE FILLING WHILE HARDENING.

Price, per bottle $1.00

SAMUEL S. WHITE,

Philadelphia, New York, Boston, Chicago.

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.

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.

M. M. JOHNSTON & CO.'S

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 th ir 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.

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.

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:

"This preparation has been extensively tested as a capping or temporary filling over freshly exposed pulps, and with results which are represented as highly gratifying. For this purpose the solution should be diluted with water so as to be only just strong enough to cause the mixture to set. On its removal, months after, the subjacent-pulp has been found healthy, and even protected by a deposit of secondary dentine. The success which has attended its use gives hope of relief from the necessity of extirpating exposed pulps, when they have not taken on a highly inflamed condition. The cavity having been cleaned, creosote should be applied to the exposed pulp, and the oxychloride introduced in a semi-fluid state. The pain experienced varies in intensity. It is generally of short duration, but may in exceptional cases continue for an hour or even longer. The permanence of this material greaty depends on its being perfectly protected from the fluids of the mouth till it becomes quite hard (requiring about half an hour), which may be assured by any of the methods deemed most advantageous for preventing the ingress of saliva; the rubber-dam, in this connection, as in the insertion of gold, proving a most valuable appliance. It is best to introduce a surplus of material, to admit of trimming to proper shape, which may be done at once, although it is advisable to cover it with a layer of gutta-percha in chloroform, and allow several days to intervene, for the more thorough solidification of the cap prior to the removal of the excess of material and final insertion of the metal stopping.

"There is another direction in which oxychloride of zinc proves a most valuable adjunct in efforts for the preservation of teeth, viz., in filling the bulk of cavities in treated teeth. By this method many advantages accrue, among which may be mentioned the saving of time and expense, with an equally durable result; the diminution of the risk of periodontitis, so liable to supervene upon prolonged violence; the avoidance of risk of fracture in frail teeth, and the equal support insured; the obviation of the yellow color when the enamel is thin; and, in the event of subsequent trouble, the comparative ease with which its removal may be effected. The gold must of course leave no portion of the oxychloride exposed.

"This material is likewise employed for securing the effects of chloride of zinc in the hypersensitiveness of dentine,—used as a temporary filling, and allowed to remain until, in the judgment of the operator, its effects are induced. Should tenderness recur in excavating, a second and even a third application may be found advantageous."

It has the entire confidence of many of the best men in the profession as a thoroughly reliable article. It is manufactured with great care and with uniformity, and is believed to be the best preparation of its kind in the market.

It is now put up in larger sized, glass-stoppered bottles, giving double the quantity that it formerly had.

For sale by all the principal dealers in dental materials throughout the United States and Europe.

Price, per box, $1.00. Prepared by

New Haven, Conn.

TO THE MEMBERS OF THE DENTAL PROFESSION!

BEAUTIFUL COMBINATION

OF

Elegance, Strength, Naturalness, and Adaptation.

Dr. J. R. TANTUM & Co.,

MANUFACTURERS OF

EXCELSIOR

PORCELAIN TEETH,

Address, 909 Market Street,

WILMINGTON, DELAWARE.

We are NOW manufacturing teeth EQUAL TO THE BEST OF WHITE'S OR JUSTI'S. WE SINCERELY BELIEVE THEM more beautiful than the FORMER AND STRONGER THAN THE LATTER. THEY ARE FAR SUPERIOR TO ANY EVER SOLD AT THE SAME RATES, IN THIS OR ANY COUNTRY.

As an inducement to Dentists to try our teeth, we will sell them at the following EXTRAORDINARY LOW PRICES, FOR FIRST CLASS TEETH.

GUM TEETH.

1 to	20 sets,	$1 96 per set, or 14 cts. per tooth.
20 to	50 sets,	$1 68 per set, or 12 cts. per tooth.
50 to	100 sets,	$1 40 per set, or 10 cts. per tooth.
100 to	500 sets,	$1 12 per set, or 8 cts. per tooth.
500 to	10,000 sets,	$0 98 per set, or 7 cts. per tooth.

PLAIN TEETH.

1 to	100 sets,	$1 25 per set, or 9 cts. per tooth.
100 to	5,000 sets,	$0 84 per set, or 6 cts. per tooth.

Gum Plain Teeth and **Plain Plate Teeth** at the same rates as Gum and Plain Teeth above.

REASONS FOR THE ABOVE STATEMENT.

During the last year we have spent large sums of money in experiments, and in the study of chemical affinities, until the eye and tests demonstrate our teeth to be as beautiful and strong as any now manufactured.

PINS.—Our pins enter the teeth well, having a good head inside. They are longer than those used by most manufacturers. The FIRST COMPLAINT is yet to be made of their pulling out of the teeth. The heads of the pins outside of the teeth are put on by a revolving stamp, an invention of our own, which spreads the head equally in every direction from the centre.

MOULDS.—We have constantly employed a mould cutter, who ranks only second in the country in his line, who cuts the finest moulds from patterns as well as originates new designs.

BURNING.—Our burner has had an experience of sixteen years, and is unsurpassed in his department.

For these reasons, as well as many others we could give, we are well satisfied that our teeth are equal in mould, style, finish, adaptation, &c., &c., to any made by the leading establishments in America or elsewhere. We speak unto wise men in their profession, judge ye what we say, by using the teeth.

Dentists will see by ordinary large quantities at one time the teeth are much lower in price. Sent by express B. C. D. to any address.

J. R. TANTUM,
B. F. WOOLSTON.

J. R. TANTUM & CO

H. C. CORFIELD,

Manufacturer of Porcelain Teeth.

Having removed to the commodious building, No. 37 North Tenth Street, one door above Filbert, we are now prepared to furnish the Profession TEETH of superior quality, and in great diversity of form and shade. They are fully equal to any manufactured, and at

Much Lower Prices than asked by other Manufacturers.

Our Vulcanite Teeth, Gum Sections and Plain, are all fitted with Double-Headed Pins, or Pins with a head on each end.

Our Upper Central Blocks have each Five (5) Double-headed Pins, and the Lower Central Blocks each Four (4).

We have a full and varied assortment of all kinds and styles of Teeth in use, embracing

Gum Blocks or Sections for Rubber Base.
" Single Teeth " " "
Plain " " " " Plate.
" " " " " Rubber.

And being willing to share some portion of the profits with the profession, have concluded to offer them at the following prices, for cash only:

Plain Teeth $1 12 per set of 14 Teeth.
Gum Teeth $1 40 per set of 14 Teeth.

And by the quantity at such prices as may be agreed upon. We solicit trial of our teeth. Satisfaction guaranteed or the money refunded.

H. C. CORFIELD,
No. 37 North 10th St., above Filbert,
PHILADELPHIA.

DR. I. W. LYON'S

TOOTH TABLETS.

An Improved form of Tooth-Powder.

Unlike the Tooth-Powders commonly in use, this article is made into neat, portable cakes, divided into little tablets each of the right size for use, not liable to scatter or be wasted, and therefore very convenient, especially for Travelers. There is no occasion for dipping the brush into the box, thereby soiling what is not used, but a single tablet, enough for one brushing, may be broken off and put into the mouth; thus, several persons can use from the same box with perfect neatness and propriety.

It is made of the materials that were most approved of in the discussions of the American Dental Association at their Annual Convention, and is believed to be the best preparation yet produced for the teeth and gums. It has received the hearty approval of many leading dentists, to whom the formula has been submitted. The following certificates are submitted to those of the profession who have not had an opportunity of testing it.

CERTIFICATE OF THE DENTISTS.

This is to certify, that, being personally acquainted with I. W. Lyon, D.D.S., of New York City, and having been informed by him of the precise ingredients composing the Dentifrice known as "DR. I. W. LYON'S TOOTH TABLETS," and having ourselves used the same, we do unhesitatingly commend it to the public as the *best and most convenient Dentifrice now extant:*

W. H. Atkinson	New York	City.	Chauncey P. Fitch	New York	City.
John Allen	"	"	Alfred N. Allen	"	"
Norman W. Kingsley	"	"	Wm A. Bronson	"	"
Frank Abbott	"	"	R. M. Streeter	"	"
Chas. E. Francis	"	"	B. W. Franklin	"	"
D. H. Goodwillie	"	"	J. Taft	Cincinnati.	
G. A. Mills	Brooklyn.	"	W. W. Allport	Chicago.	
L. J. Wetherbee	Boston.	"	J. Ward Ellis	"	"
Ball & Fitch	"	"	A. Lawrence	Lowell.	
I. A. Salmon	"	"			

Price, per dozen boxes..... $3.50

A larger discount by the Gross. A liberal discount to the trade.
Each box contains 120 Tablets. Retails at 50 cents per box.
Or sent by mail for 65 cents.

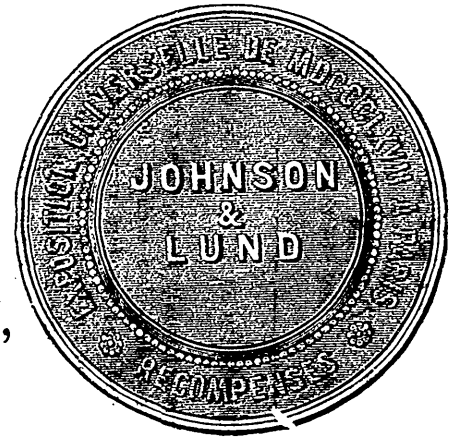
Sold at all the Dental Depots, and by the Proprietor,

I. W. LYON, D. D. S.,
No. 36 Vesey Street, New York.

PRIZE MEDALS.

WORLD'S FAIR,
PRUSSIA, 1865.

AMERICAN INSTITUTE,
NEW YORK, 1867.



WORLD'S FAIR,

PARIS, 1867.

AWARDED

FOR

ARTIFICIAL TEETH,

TO

JOHNSON & LUND,

MANUFACTURERS AND IMPORTERS OF

DENTISTS' MATERIALS.

DEPOTS, 27 North, 7th Street Philadelphia.
74 and 76 Maddison Street, Chicago.

Weston's Metal for Dental Purposes.

THOROUGHLY TESTED FOR THREE YEARS.

Warranted superior to anything of the kind ever offered to the profession. Produces as sharp and perfect casting as any copying or type metal known. With care and experience places may be cast so light and smooth as entirely to dispense with the use of burs and scrapers. For accuracy of adaptation, it is equal if not superior to any material in use.

It is tasteless and cleanly, and will positively keep its color in the mouth equal to the finest Gold or Platinum.

It is particularly adapted for full lower plates. For upper and lower parts of sets it has many decided advantages over the different cheap materials so much in use. In contact with aluminium there is no perceptible galvanic action or change of color. It receives a brilliant polish with very little labor.

Parties using this metal are not required to purchase a license. No additional apparatus required.

In 1 lb. packages..... $6 00
In ½ lb. packages..... 3.00
In ¼ lb. packages..... 2.00

Each package accompanied with full instructions. Manufactured and sold by

H. WESTON, Dentist,
Towanda, Pa.,

AND AT ALL THE PRINCIPAL DEPOTS.

Opinions of the Profession.

The following resolution was unanimously adopted at a regular meeting of the Bradford and Susquehanna Dental Association :

"That the members of this Society express themselves as more than pleased with the use of 'Weston's Metal,' in place of rubber, and feel themselves under lasting obligation to Dr. WESTON for enabling them to throw off the oppressive yoke of the Rubber Company."

216 North Sixth Street, St. Louis.

Dr. Weston :—Your metal is used and recommended by the Missouri Dental College to its students.

Respectfully yours, HENRY S. CHASE,
Professor Operative and Surgical Dentistry.

OFFICE OF PERRINE & FRANKLIN, No. 115 W. 31st St.,
New York, March 1st, 1870.

Dr. H. Weston :

DEAR SIR :—We have given your metal a trial, and are pleased with it and the results. We believe for partial under cases it is superior to any other substance known to the profession. We can get a more perfect adaptation with it than with rubber, and all delicate points acting as supports, are stronger and more reliable than rubber. We have seen cases that have been in daily use since September last (now seven months ago), that show no evidences of oxidation—an important quality, and one that at first we had fears your metal did not possess.

The great facility with which your metal is manipulated into plates renders it an important adjunct to our list of materials out of which to construct dental plates, and other dental apparatus.

We shall take pleasure in recommending its use to our professional friends. You will please accept our thanks, and we doubt not you will receive the thanks of the profession for your successful efforts in bringing out so valuable a com-

pound, and the liberality with which you offer it to the profession is in striking contrast with past experience.

Yours truly. GEO. H. PERRINE, D.D.S.
B. W. FRANKLIN.

(*From American Journal Dental Science.*)

We have tested this metal in the case of entire lower sets, and are inclined to the belief that it is superior to anything of the kind which has yet been brought to the notice of the profession. We advise a trial of it by those who object to rubber. There is no doubt but that it is stronger, and will keep its color better in the mouth than any of the cast plates in use.

(*From Missouri Dental Journal, May number.*)

We have been using this metal for the past six months or more, with much satisfaction. It is undoubtedly one of the best substitutes for Rubber of which we have any knowledge. It is tasteless—does not discolor, or has not in any of the cases which have come under our observation ; is more lasting than Rubber, and a plate of this metal will be found to fit the mouth as nicely as a Rubber plate can be made to do.

(*From Missouri Dental Journal*, Nov., 1869.)

This metal has been considerably used in this city for making both upper and under dentures, and has given very great satisfaction.

(*From the same Dec. number.*)

The cry, "What shall I do?" still comes to us, as some poor victim of the Rubber Co., who has been overlooked, is hunted up, and the strong arm of the law is raised to annihilate him. In reply, we say, try Aluminium—and Weston's Metal for partial or lower sets. We are induced to recommend Weston's Metal in preference to that known as Adamantine, (Moffit's Metal,) or the Walker's Excelsior Base, because, from the tests we have made of these bases, this seems to us to promise the best results.

Compared with Rubber, this is superior in point of strength and durability. The Weston Metal has thus far proved as tasteless as Rubber. Patients who have tried Rubber, and been obliged to give it up on account of its effect upon the mucous membranes, causing inflammation and even sloughing of the soft parts, are now wearing plates of Weston's Metal with perfect satisfaction. So far as we have been able to judge, Weston's Metal is not affected by the secretions found in the oral cavity. It does not materially change color. It may, with care, be cast almost as thin as an ordinary gold plate.

WESTON'S FLASKS—ESPECIALLY ADAPTED TO CASTING PLATES.

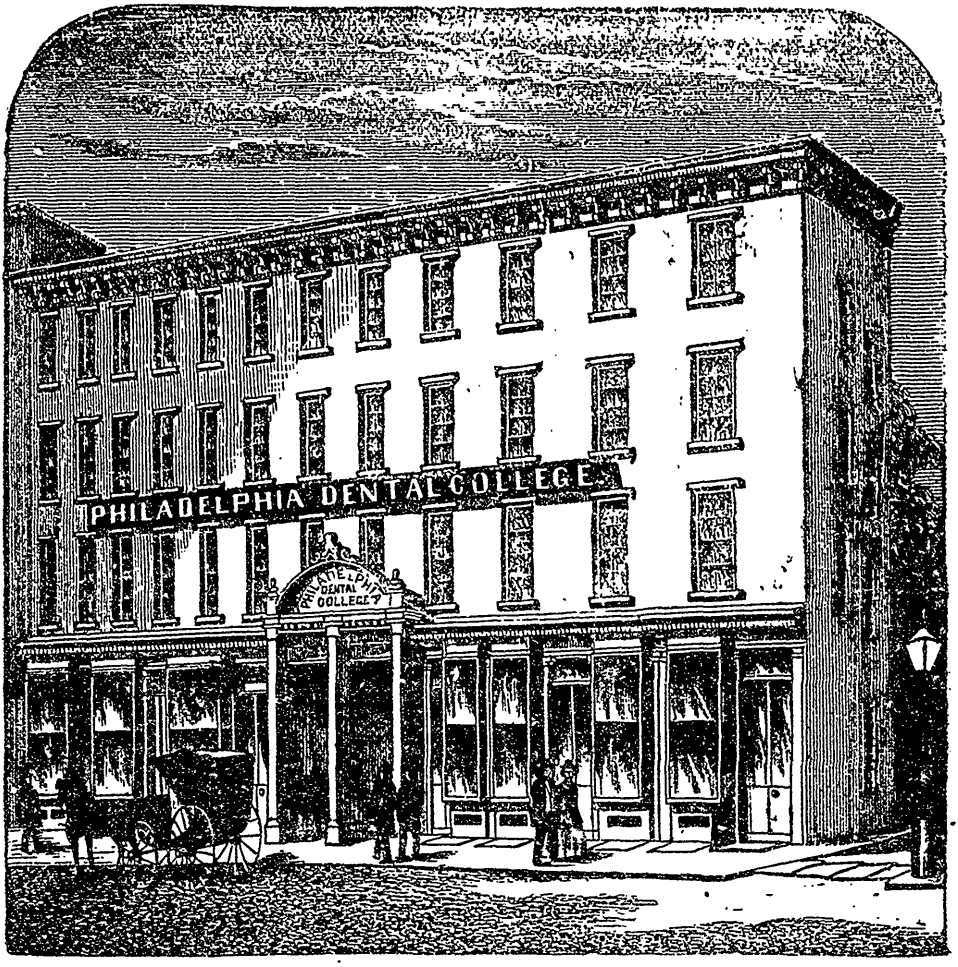
Being longer than the ordinary Flask, it gives more room for the reservoir posterior to the plate, which is the whole secret of casting perfect plates. The Flask is closed with a spring steel clamp, and stands on feet to facilitate pouring the metal.

PRICE. $1.00

PHILADELPHIA DENTAL COLLEGE.

Nos. 108 and 110 N. Tenth St., above Arch.

NINTH ANNUAL SESSION, 1871-72.



FACULTY,

J. H. McQUILLEN, M.D., D.D.S., Professor of Physiology.
HARRISON ALLEN, M.D., Professor of Anatomy and Surgery.
D. B. SMITH, D.D.S., Professor of Mechanical Dentistry and Metallurgy.
S. B. HOWELL, M.D., Professor of Chemistry and Materia Medica.
T. C. STELLWAGEN, M.D., D.D.S., Professor of Dental Pathology & Operative Dentistry.
CHAS. E. PIKE, D.D.S., Demonstrator of Operative Dentistry.
ALONZO BOICE, D.D.S., Demonstrator of Mechanical Dentistry.

The DISPENSARY and Laboratory will be open all the year. During the month of October, *preliminary lectures* will be delivered *daily*, until the first of November, when the *regular session* of the College will commence, and continue until the ensuing February. Three hours of each day will be devoted to the lectures, and four or more hours may be spent in actual practice, under the supervision of the Demonstrators. The Dispensary consists of two large rooms, each fifty feet in length (lighted on all sides by twenty window and a fine sky-light), furnished with *forty comfortable* operating-chairs, arranged to command the best light, and affording unequalled opportunities for practice to the students. A large number of patients present themselves at the clinic.

Tickets for the entire course, including the Demonstrator's, $100; Diploma, $30; Matriculation (paid but once), $5.

For further particulars, address

J. H. McQUILLEN, Dean,
S. W. Cor. 21st and Arch Sts.

HARVARD UNIVERSITY.

DENTAL DEPARTMENT, BOSTON, MASS., 1871-72.

Fourth Annual Session.

FACULTY.

CHARLES WILLIAM ELIOT, LL.D., PRESIDENT.

NATHAN C. KEEP, M.D., D.M.D., Professor of Mechanical Dentistry.
OLIVER W. HOLMES, M.D., Professor of Anatomy and Physiology.
HENRY J. BIGELOW, M.D., Professor of Surgery and Clinical Surgery.
JOHN BACON, M.D., Professor of Chemistry.
THOMAS B. HITCHCOCK, M.D., D.M.D., Professor of Dental Pathology and Therapeutics.
GEORGE T. MOFFATT, M.D., D.M.D., Professor of Operative Dentistry.
THOMAS H. CHANDLER, A.M., Adjunct Professor of Mechanical Dentistry.
LUTHER D. SHEPARD, D.D.S., Adjunct Professor of Operative Dentistry.
NATHANIEL W. HAWES, Assistant Professor of Operative Dentistry.
EDWARD A. BOGUE, M.D., University Lecturer on Pathology & Therapeutics.
IRA A. SALMON, D.D.S., University Lecturer on Operative Dentistry.
SAMUEL F. HAM, D.M.D., Demonstrator of Mechanical Dentistry.
CHARLES B. PORTER, M.D., Demonstrator of Practical Anatomy.

Attention is called to the changes which have been made in the manner of instruction and the time of the commencement of the Session. Instruction will be given by lectures, recitations and practical exercises. New and thoroughly-appointed laboratories for practical instruction in mechanical dentistry, chemistry and physiology, have been provided with separate desks and benches for each student. The Infirmary, which has been established in connection with the Massachusetts General Hospital, remains open throughout the year, and offers to students unsurpassed facilities for acquiring practical knowledge and dexterity.

The Session will commence on the LAST THURSDAY, (28th) SEPTEMBER, and continue nineteen weeks.

Matriculation Fee	$5 00
Full Course of Lectures, including Demonstrators' Tickets	110 00
Graduation Fee	30.00

For further information address

DR. THOMAS B. HITCHCOCK,
Acting Dean,
222 Tremont Street, Boston, Mass.

CHARLES ABBEY & SONS,

MANUFACTURERS OF

DENTISTS'

FINE GOLD FOIL,

No. 230 PEAR STREET,

PHILADELPHIA, PENNSYLVANIA.

OLD FASHIONED, (SOFT OR NON-ADHESIVE,)

FINE GOLD FOIL,

ADHESIVE FINE GOLD FOIL.

For nearly fifty years our OLD-FASHIONED GOLD FOIL has been before the Profession, and has received the unqualified approbation of most of the best Dentists. Our

ADHESIVE GOLD FOIL

While possessing all the properties peculiar to that particular article, is free from the objectionable harshness or stiffness that characterizes so much of the Gold Foil that is offered as Adhesive. All our Gold Foil (Old-Fashioned and Adhesive,)

Is Made From Absolutely Pure Gold,

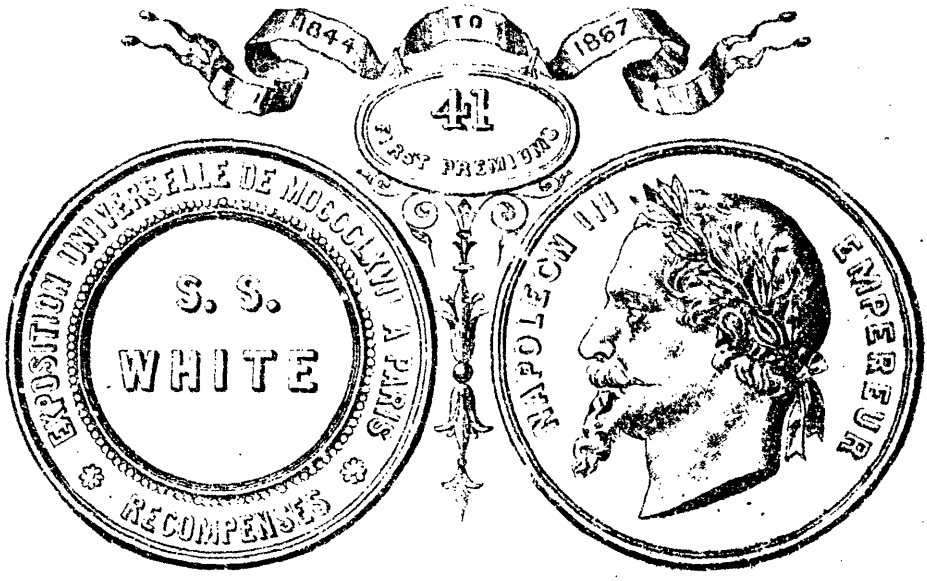
Prepared with great care by ourselves, and warranted to be as represented,

Free from Alloy or Impurities of any Kind.

FOR SALE

AT THE PRINCIPAL DENTAL DEPOTS.

OR ORDERS MAY BE SENT DIRECT TO US.



ARTIFICIAL TEETH.

A GOLD MEDAL,

THE FIRST PREMIUM, AWARDED at the PARIS EXPOSITION.

MORE PREMIUMS!

AT THE FAIR of the AMERICAN INSTITUTE, NEW YORK, OCTOBER, 1869,

THE FIRST PREMIUM,

A MEDAL & DIPLOMA,

Was Awarded to us for Improvement in Artificial Teeth.

A GOLD MEDAL

Was Awarded to us by the FAIR of the MARYLAND INSTITUTE, BALTIMORE. Exhibition of November, 1869,

FOR THE BEST ARTIFICIAL TEETH.

These Premiums were awarded for Improvements over all Teeth previously made, either by ourselves or others, and not merely for superiority over those with which they were in competition at the fairs.

The especial attention of the profession is requested to these Improvements, which were recognized by very able Committees as obviating the greatest remaining defects in Artificial Teeth for Rubber Work.

Of this Improvement the Committee of the American Institute say:

"In regard to the shape and insertion of the pin in the body of teeth now manufactured by S. S. White, the improvement is manifestly great over those of any other manufacturer known to us."

SAMUEL S. WHITE,

PHILADELPHIA, NEW YORK, BOSTON, and CHICAGO.