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# Dominion Dental Journal

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## Original Communications

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### DOCTORATE ADDRESS.\*

BY C. N. JOHNSON, L.D.S., D.D.S., CHICAGO, ILL.

*Mr. President, Ladies and Gentlemen, and Fellow Members of the Dental Profession,*—In thus addressing the members of this class as fellow members of the dental profession, I have a definite object in view. I wish at the outset to impress upon you the fact that, so far as your obligations are concerned—so far as your status in the affairs of men, your responsibilities and your relations to the world at large—you are as much an integral part of the dental profession this moment as is the oldest practitioner in existence. If you can start out upon your professional career with a sufficiently exalted conception of the basal ideas of professional responsibility and professional character, if you can grasp that intricate, but tangible, distinction which classifies you apart from the mere mechanic or tradesman and places you in a more intimate and exacting relationship with your fellow-man, then that realization, I am free to believe, may mean much, not only for your own future, but for the future of the profession in Ontario.

I have frequently been impressed with the seeming failure on the part of young men just entering the profession to appreciate the full significance of what a professional life should mean. Some one has truly said that the difference between a professional man and a tradesman is that the one deals with persons while the other deals with things, and that consequently a profession is just as much greater than a trade as persons are greater than things. In this comparison there is no intimation whatever that a trade is not a perfectly honorable calling. A tradesman may be a man entitled to the highest respect of his fellow-man. He may be a good

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\* Delivered to the graduating class of the Royal College of Dental Surgeons, Toronto, April 27th, 1900.

citizen, a worthy member of society, and his usefulness in the world may be said to be restricted only by his own personal limitations. But in the final analysis of what constitutes the individual's true relationship to mankind, it can never be claimed that a tradesman's responsibilities are of the same character as are those of the real professional man. It is true that very many men who have been ostensibly educated for a profession, and are supposed to have instilled in them the essence of true professionalism, never seem to acquire the vaguest idea of their real relationship to humanity, and continually conduct their practice in accordance with the principles of trade. This can scarcely be considered as an elevating influence upon the standing of the particular profession with which they are connected; in fact, it may truly be said that, in the history of all professions, this tendency has had a degrading effect more widely disseminated than that of any other single influence.

It may be profitable for us this evening to consider briefly some of the phases of professional duty in their application to us as dentists. You, as an energetic body of young men, have attained your present proud position as the result of three or more years of effort to acquire a certain kind of knowledge. That knowledge is of a special character. It is such that the average man has little cognizance of it, and you are thereby set apart from other individuals by this distinction. You have been instructed by men of eminence in their respective departments, and they have given to you the best of that which their years of observation have taught them. You have been examined by a Board discriminating in its judgment and conscientious in its decisions, and you have by this Board been adjudged competent to go out in the world and practise the profession of dentistry. In all of this you have been most fortunate; but I say to you now, with all the earnestness at my command, that by virtue of every jot or tittle of that knowledge which you have thus attained, are you doubly bounden in your obligations to your fellows. The acquirement of the kind of knowledge sought by you in your studentship may properly increase your prestige, but in fully as great a degree must it also increase your responsibilities. There is not one fact learned by you in college but the acquirement of that fact adds to your obligations.

Let us see the significance of this. As men of special training along lines that are unfamiliar to those who are to seek your services, you are at once placed before your patrons in the light of a professional adviser. They come to you, relying on the fact that you have information that they have not, or that other men have not, unless trained as you have been trained. Every time a patient takes your chair it is a tacit acknowledgment of your superior ability; it is an act of confidence by which they indicate their dependence upon you. That dependence once expressed should never be abused to the detriment of the patient.

To bring the matter down to a more direct application, let us suppose that a patient applies to one of you with a tooth that is giving trouble. The patient knows only one thing—that there is pain and it comes from the teeth. It is not to be expected that the average individual will have any intelligent idea as to what is the best thing to be done with the tooth, and the usual request is for its extraction. If you reach for the forceps and extract the tooth the patient leaves the office satisfied, and you may thereby argue that, from the patient's point of view, you have done your whole duty in the matter. But there is another feature of the case. Supposing this was a tooth which, by judicious and skilful treatment, could have been preserved—as most of these teeth are. It is here that the special knowledge you have gained in college places you under an obligation to the patient. You are expected to be familiar with the possibilities of saving teeth, and if you wantonly deprive this individual of a useful organ without first giving him the benefit of your advice as to its possible preservation, you are guilty of a criminal negligence. No matter if it may be easier or more profitable for you to extract, your bounden duty is to acquaint the patient, as fully as you can, upon all the possibilities of the case, as well as upon the seriousness of the loss of a tooth. The loss of a tooth is no trifling matter, as many a patient has learned when too late, and it is a dentist's function to educate the people, in addition to serving them in other ways. Nor should this instruction be merely perfunctory and stereotyped. It will do little good to stand before a patient and make a formal and technical statement of the arguments in favor of saving teeth. You must get down into the soul of your subject and prove to them, by your very earnestness, that you are sincerely interested in their behalf. Most patients will appreciate this, though they may not exhibit appreciation at the time. It is seldom that an earnest appeal of this nature ever fails completely in leaving its impress, and even if you are finally obliged to extract the tooth on account of the persistence of the patient, the fervency of your appeal will be remembered long after the tooth is gone. Then again, cases may come to you where the indications are so strongly opposed to extraction that you are justified in flatly refusing to extract, irrespective of the wishes of the patient—not that you should ever send a patient away from your office suffering with pain without an attempt to relieve it in some way. The dentist's first function is to relieve pain and, no matter how unpromising the patient, whether the veriest beggar on the streets or the lowliest floater in the social scum, the dentist should never hesitate in offering his services for the relief of pain. But the pain once relieved he is fully justified, under certain conditions, in refusing to remove from the mouth of a patient a tooth which he is certain may be made useful for life.

This attitude on the part of the dentist may be construed by some as being altogether too stilted and hyperethical. Let me say to you, to-night, gentlemen, that the present ethical standard of dentistry has been attained largely as the result of the opinions and examples of men who, in their time, have been charged with exaggerated ideas of ethics. The simple fact is that you cannot be too ethical because, after all, ethics is only another name for honesty.

There is a further phase of professional obligation to which I wish briefly to allude, and it is one which stirs me more vigorously in its contemplation than any other one feature of our relationship with our patients. I refer to the practice of using deception as to the exact character of service which is being rendered the patient by the dentist. I have before stated that the patient is not expected to be familiar with matters of this character, and it seems to be the easiest possible kind of imposture for some dentists to work deception upon their victims. Let me cite a case in point to illustrate my meaning. A few days ago I saw the wreck of a piece of bridge-work, which the dentist had palmed off on an unsuspecting patient under the high-flown name of a "platinum bridge." There were three porcelain facings on the bridge, and it had been fastened to the natural teeth by bands. The bridge had been constructed by tacking a couple of wires from one band to the other and then filling in the entire space between the bands, the facings and wires with amalgam. I need not announce to the most unsophisticated freshman what the result of mastication would be upon such a bridge as that, and yet the patient had accepted this work with the utmost assurance that the dentist was doing for him the best possible service. I do not know who the dentist was that did this piece of work, because I purposely declined to be informed upon that point. I like to hold a good opinion of my professional friends, and I should much prefer believing that such work had been done by some man that I had never heard of than to make the possible discovery that it had been done by some one I was in the habit of calling a friend.

Now, what shall we say of a dentist who will practise this kind of deception? In a general way I have little admiration for the man who goes out upon the street at night with a sand-bag and a mask, and holds up the passers-by to take their money, but I really believe that I could place this man on a pedestal and worship him with better grace than I could tolerate, for one moment, that conglomerate mass of hypocrite, imposter, sycophant, professional parasite and villain, known as the dentist who preys on his victims through the medium of their ignorance. In all the professional relations this is the lowest of all.

What has just been said must not in the slightest degree be construed into a criticism of failures made through an error of

judgment. I have in my heart of hearts the most abounding charity for the man who makes mistakes, particularly if he be a young man just starting out on his professional career. I care not what the nature of the mistake may be, so long as it has been made after an honest, painstaking attempt to do right. I would that it were in my power to place my arm around every beginner who stumbles and gropes his way along the rough places in his early practice, and help to encourage him during his failures. I could do this cheerfully for the humblest young man who ever entered the dental ranks, but the moment I found him stooping to practise deception upon his patients I should want no more of him, professionally or personally.

But all of this you have doubtless been taught in one way or another during your college course, and I merely wish to emphasize this particular phase of professional obligation as it relates to your future practice as dentists.

Let me now consider for a brief space another question, which must of necessity come very close home to you at the present time. You are each going out on your several ways to appeal to the public for patronage, and it is a matter of much moment to you whether the reception that awaits you is to be encouraging or otherwise. We hear alarming tales in these latter days of the deplorable overcrowding of the dental profession, and I honestly fear that, to a certain class of practising dentists, you, as a body of young men going out into the field, are not a very welcome commodity. But let me hasten to assure you that every worthy practitioner of dentistry, if he has a spark of manhood about him, will be glad to extend to you the right hand of fellowship and make you feel at home in our ranks, and it is a matter of no small pride that I have been honored by the privilege of being one of the first to extend you a welcome.

Now, let us see whether or not this hue and cry about overcrowding is well founded. My very good friend, the Editor of the *DOMINION DENTAL JOURNAL*, seems profoundly impressed by the conviction that affairs in the dental world are rapidly drifting into chaos on account of this overcrowding. I must cheerfully grant that he is in a better position than I to judge of the merits of this matter in the provinces of Ontario and Quebec, and yet I find myself sufficiently venturesome, in view of our extremely cordial personal relations, to take a rather emphatic, though good-humored, issue with him. Are there too many dentists? The question does not relate to whether there are any number of unfortunate practitioners who are barely eking out a miserable existence, and who are screwed down by the exigencies of the case to adopt a beggarly fee-bill that would disgrace a self-respecting boot-black. That is not the question at all. We have such men in our midst, and they must not be ignored, and I am profoundly sorry for them; but for

every one of these men whose failure may be traced to conditions aside from the individual himself, I can point out ninety and nine who fail through personal limitations, which are as plain to the student of human nature as are the proverbial hands on the face of a clock. Most of the failures we see are due to misfits. Men enter the dental profession, as in fact they do in all professions, without a sufficiently careful study as to their probable fitness for it. If misfits are more noticeable in our profession than in others, it is merely because it requires a more varied order of ability to be a successful dentist than to be a success in almost any other field of effort. Though this may seem a broad statement, it needs only a careful investigation to prove the truth of every word of it.

"But," I think I hear someone say, "this does not also alter the fact that in towns of a certain population there are, to-day, two dentists for every one who practised there a few years ago." And someone else hastens to clinch the argument by saying that dental fees were never so low as they are at present, and that competition was never so acute. To all of which, I suppose, I must agree. But let us examine this question a little further. Is it not a fact that in these towns spoken of there is twice the volume of dental service being rendered to-day than there was a few years ago? Ask our friends, the dental supply men—who are multiplying amazingly—as to the extent of trade compared with twenty years back. This question of overcrowding is not a recent one—it began away back in the infancy of our profession. The first man who ever located in any town, no matter how large it was, felt overcrowded when a second man came in to practise.

I very well remember my own experience when, as a recent graduate, situated as are you, young men, to-night, I sought out a town where there was already a dentist and opened practice. I shall never forget my reception when, in accordance with the ethical requirements of the case, I made a professional call upon him. Said he, "I suppose you have the legal right to come here and practise, but I want to tell you it is like cutting a loaf squarely in two in the middle." I have never yet learned whether that loaf was divided precisely in the middle or not; but I do know that neither of us starved, and that one of us, at least, had an occasional piece of pie. I should greatly enjoy meeting my good friend to-day to take him by the hand and talk over old experiences.

There are other phases of this question which might profitably be discussed if time permitted; but, suffice it to say that even if we do grant, for argument, that the dental profession is becoming overcrowded, the question arises, are we any worse off than other callings? We hear the same hue and cry in every other pursuit in life, with the possible exception of aeronauts, and I even heard one of them the other day complaining of too much competition. According to statistics there are too many mechanics, too

many lawyers, too many physicians, and a short time since I read a sober article in a religious magazine in which the argument was vigorously set forth that there were altogether too many ministers.

In view of all these calamitous forebodings, I have sometimes found myself in sore distress over the probable outcome of everything human, and yet when I look over the history of the world and compare the social conditions of to-day with those of the good old times, when nothing seems to have been overcrowded, I am quite content to take my chance in a crowded age.

The simple fact is that the conditions of life are rapidly changing, and there are some people who cannot seem to keep pace with the change. To prove that, after all, there is very little real overcrowding, I do not need to go outside of our own profession in search of facts. If it be true that there are many dentists who are not fully occupied, it is also true that there are many who are working harder to-day than dentists have ever worked in the history of the world. If it be true that fees are lower to-day than ever, it is also true that the fees are immensely higher than ever. There never was a time in the history of dentistry when such high fees were confidently asked and cheerfully paid as at present. We hear of dental fee-bills to-day that would have staggered the public a generation ago. I have on my appointment book at the present time a patient who recently paid one of my colleagues a fee of \$5,000 for dental service, and paid it most willingly. These things prove at least that if there is a "pitiable overcrowding" in the lower ranks of dentistry, there is assuredly "plenty of room at the top." In fact, as an acute observer remarked to me a few years ago, "there is more room at the top than at the bottom."

And the real trouble in the whole matter is this: That there are too many men in the profession who are prone to content themselves with mediocrity of attainment, instead of throwing their whole life and energy into such advancement as will elevate them to a plane with the highest and best of that which a progressive profession has to offer.

It is this one central thought that I bring to you young men here this evening. If you drop into a rut on going out to practise and settle down with the assurance that your chief work is done because your diploma is earned, then I predict that you will sooner or later join the ranks of the overcrowded, and help to hold the profession down to the level of mediocrity. But if you cultivate the true professional spirit, which embodies the idea that a man's duty is never done short of the highest possible attainment in the service of humanity, if you so study and labor and advance that your patients will thereby receive the benefit of the best that progressive dentistry can furnish, then I am safe in promising you a



future of such success that you will never regret your choice of callings. The more one learns about dentistry the more one wants to learn, and I have this message for your encouragement, that there never was a time so propitious as the present for the development of new ideas and new advances in the profession. Numberless questions in dental science are clamoring to-day for further light, and it would sometimes seem that, with all the progress of the past, we had merely reached the outer vestibule of the tabernacle, and had before us yet the unrevealed treasures of the main edifice. May it be yours to help open up some of these treasures and reveal them to the world of thought.

And now just one word in conclusion. I cannot allow this occasion to pass without extending to you my hearty congratulations upon the auspices under which you are entering the profession. I have a warm place in my heart for the institution which, in future, you are to call your Alma Mater. It was from under its motherly wing that I first fledged forth a dental offspring, and I have never ceased to take an active interest in its welfare. Years ago I sat where you sit to-night tasting the first fruits of accomplishment. I had the honor of listening to some of the same teachers that you have listened to, and I hold those teachers in greater reverence to-day than it is possible for any of you to experience without the mellowness of the receding years. I extend to them to-night my sincere and heartfelt thanks for what they did for me in the days gone by.

To you, who are my professional brothers in more senses than one, I come with the warmest sentiments of true fraternal greeting. It is my earnest wish that you may each and every one attain to eminence in the profession, and thus fulfil what I should be pleased to believe as your manifest destiny. You are under a solemn obligation to do the best that in you lies, at all times, and under all conditions. You owe this to yourselves, to your Alma Mater, to your profession, and, above all else, you owe it to the people who place themselves in your professional care.

May you have that success in life which sweetens toil, and lends a fragrance to the stoniest uphill path. May your measure of attainment be meted out to you sufficiently early in life that you shall develop a healthy ambition to carry you over the discouragements of maturer years. May your whole life be well rounded out and happy, and when the final summons comes to you as it comes to all, may it be yours to know that you have left the record of a life, which, however humble, has been of service to your fellow-man.

I bid you "All hail!" and "bon voyage!"

## THE PRACTICE OF SCHOOL DENTISTRY IN THE PUBLIC AND POOR LAW SCHOOLS OF ENGLAND.\*

BY W. J. FISK, L.D.S., EDINBURGH, HON. SEC. SCHOOLS  
DENTISTS SOCIETY.

The purpose of this communication to the Dental Congress is to place before its members the actual condition of school dentistry, as practised at the present time in England in some of our Public and Poor Law Schools.

The work is yet limited, but still a distinct advance has been made during the last few years, and we have every reason to hope that school dentistry will be practised more extensively, and that an increasing number of the young in English schools will have the benefit of dental supervision as time progresses.

Mr. Fisher, of Dundee, was one of the first to call attention to the necessity of systematic attention to the young people in British schools, and, partly as a result of his efforts, the British Dental Association appointed a Schools Committee to investigate the subject and report to its members. The work done by members of the Association was invaluable, for they, after an immense amount of labor, examined large numbers of children belonging to every class of life, and the results have been presented to the profession in the form of statistics, published by the British Dental Association. A perusal of these figures will enable men to judge of the value of the work done by the Schools Committee, and realize fully the indebtedness of the dental world to them.

The present condition of school dentistry is undoubtedly owing to the work of the Schools Committee in educating public opinion, and, although we cannot record great progress, yet the movement in favor of dental supervision for the young people in the schools of England is increasing steadily, and the future is full of hope.

The public schools educate children of the upper and middle classes of England, and it is a satisfaction to know that, amongst schools of this class, will be found some where very thorough arrangements are made for dental supervision. The procedure is somewhat different in different schools, but an examination of the method of working will enable you to see in what degree.

Marlborough College.—All new boys must have their teeth examined by the dental surgeon at the beginning of the term. New boys, who are in the habit of being seen by a good dentist, are advised to visit him, if necessary, at the next vacation; where several teeth are very carious or are needing extraction, a chart is

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\*Read before the International Dental Congress, Paris.

made out, and a report sent to the parents with a letter from the medical officer, sent at the wish of the head master, and an estimate of fees is quoted. It is quite optional on the part of the parents as to whether the work is done at the college or not. A report is, if necessary, sent with chart in the case of all new boys who do not see a dentist regularly, and no work is undertaken for new boys without the written consent of parents or guardians. Other boys desirous of professional attendance are considered as private patients, but the fees must not exceed £4 4s. without written consent from parents or guardians. The dental room is within the college and belongs to the medical officer's suite. The medical officer attends for all anesthetic administrations. Hours of work are from 7 a.m. or 7.30 a.m., according to time of year, and ends at 3.30 p.m., with intervals for meals.

Mr. Baker, the dental surgeon, who has kindly furnished the above particulars, has attended at the college for the last eight years at the invitation of the head master. He, from his experience, has been much struck by the fact that the boys going there now are very much better looked after, as regards their teeth whilst at preparatory schools and before they pass through his hands, than was formerly the case; nothing like the number of extractions are now, he states, required. Mr. Baker strongly holds the opinion that the six-year-old molars, if thoroughly filled when the patients are thirteen years of age and upwards, will last splendidly, and, except for overcrowding, keep all of these teeth possible, as they will, he believes, make most useful masticatory organs whether filled or crowned.

Wellington College.—Mr. Vernon Knowles, who has given me the following information, has attended this school for the past nine years, weekly, during term time. His rooms are outside the college buildings, these, as well as the dental equipment, being supplied by him. At this school there is no compulsory attendance of new boys for visiting him. At the same time facilities are given to the boys for visiting their own dentists, if their parents so desire. The weak spot is the lack of systematic inspection, not yet adopted here, especially considering the number of boys who pass out into the army from Wellington College.

Mr. Vernon Knowles, as a public school dentist, is strongly of the opinion that all new boys should be examined on entrance, for the following reasons:

1. Through neglect, their teeth are often in a bad state; this, he thinks, applies to 50 per cent. of the boys.

2. Owing to the stringent regulations of the army and navy on this question, and because the officers are generally drawn from public schools.

3. It is important that a high state of dental efficiency be maintained, as it is not an uncommon occurrence for boys who have

passed all their examinations to fail in the dental test, and be rejected on the ground of faulty dentition.

Mr. Knowles suggests that, after each new boy is examined, a report as to the condition of his teeth should be sent the medical officer or head master, one of whom would forward the same to the parents or guardians, with a letter to the effect that the boy should have the necessary teeth put in order before he returns next term, or, if they wish, the work to be done by the school dentist during term time.

Felsted School (number of boys, 272).—The dental surgeon attends three days each fortnight for convenience. He arranges the work thus: From 10 to 12 for conservative work; from 12 to 1, examination of new patients; from 2 to 4, conservative treatment again. Gas operations are taken at 3.30 on pre-arranged days, the anesthetic being administered by the medical officer. In this school each boy is examined on entrance, and a report sent at the end of the term to parents or guardians. There is no compulsion, however, to have the work done by the school dentist.

Mr. Nicholls, who till recently held the post of school dentist in this school, thinks it is in the best interests of the boys that the parents should be compelled to have their children's teeth attended to, or made to withdraw their boys.

Another large public school is the Haileyburg College. Here a dental surgeon attends at regular intervals, and the system of examination is carried out for each new boy. For those requiring dental operations the following course is adopted: A report is sent to the parents indicating the condition of the teeth, with an approximate charge for the necessary treatment. It is accompanied also by a letter from the head master requesting that the matter may be attended to before the boy returns next term, and stating among other things, that all dental operations during the term must be performed by the school dentist and at the school, as no boy would be allowed off for this purpose. The medical officer attached to the school administers anesthetics when necessary.

At Eton no special arrangement exists as regards dental surgery, but leave is granted to the boys to visit a dentist, if necessary.

Harrow.—There is no dentist attached to this school; boys are allowed to go to London on certain occasions to see their own dentists, or are treated by the local dentists.

Berkhamstead Public School is an example of many. There are about 330 boys. There is a dental surgeon, although not specially appointed on the staff, yet he is known as the school dentist, and does all the work in connection with the school. The boys attend at his private surgery when they require anything done, and he, at the end of the term, sends in accounts to the different house masters. In this school also no system of compulsory inspection is

carried out, yet no difficulty is placed in the way of boys consulting the dentist, and the authorities feel they have done all they could reasonably be expected to, in seeing that the pupils have the services of a properly qualified dental surgeon.

The above examples will, I hope, enable members to understand the way in which school dentistry is practised in English public schools.

**Poor Law Schools.**—The Poor Law children are educated in Poor Law Schools of a somewhat varied kind. The most important are the large district schools; then we have the Parish Schools, in which the children from one parish are educated, not on the workhouse premises, but on a separate site, and governed under special regulations issued by the Local Government Board.

An example of a London Parish is that of St. Pancras, whose schools are at Leavesden, a distance of about 18 miles, with a population of about 620 children. St. Marylebone has 414, Lambeth has 635. Most of the other special parish schools are in the provinces. Birmingham, I see, in 1897-1898, had a population of 265 children. The total number of these schools amounts to 38.

Then there are schools where the children are educated on the workhouse premises; the average number is very small, some workhouses having as few as nine, and I should think seventy would be a very high average for most of them. There are several Unions throughout the country, and these are in the large majority, containing very few children, who are not educated in the workhouses, but at elementary schools.

These figures are given that it may be understood why it is that dental surgeons are appointed to some schools and not to others, and why guardians differ in the views they hold on this question of school dentistry.

A school of 700 or 800 children, like a district or large parish school, must necessarily have a number of young people suffering from dental disease, and in many cases with marked symptoms. The medical officer also would be made aware of tooth trouble so frequently that he would feel the necessity of some skilled assistance. Then again, the rejection by the naval authorities of numbers of boys would compel the governors of that school to consider the question of dental supervision; hence the guardians of the school would be able to appreciate the good that could be done by appointing a dentist to look after the teeth of their young people. In a Union containing very few children the result of dental neglect would not be brought so vividly before either the Board or the medical officer. However, the example set by the large schools in this respect is having very beneficial results gradually in the smaller Poor Law Schools of the country. Nearly all the District and Parish Schools of London have dental surgeons attached.

The schools of St. Marylebone are at Southhall; number of

children, 370. The dental surgeon receives a salary of £50 per annum, the attendance is half a day each week. In this school a very complete equipment has been supplied, but it is very possible that this weekly attendance will not be necessary when the children's teeth are once in order, and that less frequent visits will be sufficient to maintain dental efficiency.

St. Pancras Parish School has about 530 children. The arrangement with the guardians is a little different. The dentist appointed is bound to attend once a fortnight, no time limit is mentioned nor yet particular day, but he must be at the school once in fourteen days. A very thorough equipment is provided, and reports must be sent half yearly to the guardians ; the salary is £50 a year, with luncheon.

The guardians of the Holborn Schools, at Mitcham, prefer to have their children attended to by a dentist who is obliged to do the fillings and scalings at his own house, and only the extractions are done at the schools. The salary depends upon the amount of work done ; the guardians allow for fillings, 2s. 6d.; for scalings, 4s.; and extractions, 6d. each ; the dental officer having to provide his own equipment and a room at his own house to do the work.

St. George's-in-the-East School has 250 children. Salary, £40 per annum. Here the conservative work is done at the house of the dentist, but he attends the school at intervals to do extractions, scalings, etc. No regulation cases are done except from choice.

Training Ship *Exmouth*.—There are on board 600 boys, ages from 10 to 16, divided into six divisions of 100 each. Each division is divided into two watches of 50 boys each. The dental surgeon attends every Tuesday from 10.30 to 4.30 ; a good dental equipment is supplied ; salary, £100 a year. The method of working is thus : On the first two Tuesdays in each month one watch is inspected, and any new boys who have joined the ship since the last visit ; in the afternoon of those days, and all day on the remaining Tuesdays of the month, the operations are done at the infirmary in the dental room. In this way one division is seen each month, therefore every boy is inspected at least twice a year.

A dentist is appointed to the Banstead Schools. There are about 700 children divided into cottage homes. These are irregular in size, and therefore do not lend themselves to the same regularity of treatment as on the Training Ship *Exmouth*. Many of the inmates are babies who require but little attention, so that it is sufficient to attend one afternoon in each week. The salary paid is £70 per annum.

The Central London Schools, at Hanwell, have about 700 or 800 children and, in addition, the ophthalmic section, with from 250 to 300. The dental surgeon receives £100 a year for a weekly visit of five hours. A complete equipment is supplied, record books are kept at the school, and new admissions are inspected in the probationary ward.

The ophthalmic children are kept separately, and an assistant is allowed by the Board to look after them. He has a separate dental equipment, and is paid a salary of £50 a year for an attendance of six hours per fortnight. The dental surgeon is responsible to the Board for the dental conditions of all the children and the total salary then is £150, with two surgeries equipped, but the officer is allowed to provide an assistant.

In the provinces the salaries offered to dental surgeons are so small, and the guardians, as a rule, not supplying any dental equipment, that it is very difficult for any dental surgeon to work up to the high standard of the London Poor Law Schools, where usually a thorough equipment and room is provided. We hope, however, as the value of dental attention makes itself evident in the improved condition of children's teeth, that the provincial guardians will see the importance of thoroughly equipping their dental surgeons.

Oxford Poor Law County Schools have a dental surgeon at a salary of 15 guineas per annum, for 150 boys. He attends six times a year, but must supply his own instruments and materials.

The Watford guardians have appointed a dental surgeon for 50 children, at a salary of £20 per annum. He attends fortnightly, and has been provided with a very good dental equipment.

The Birmingham guardians appointed a dental surgeon to the Marston Green Cottage Homes, but yet in this large city they have not seen the necessity of providing the dentist with a dental equipment.

This communication is only meant to convey to the congress examples of dental appointments in the Poor Law and Public Schools of England.

It will be seen that, in some of the Public Schools, a high standard is set; there is a systematic examination of the boys, the parents are advised as to their dental condition, and a dental officer attends to deal with dental disease. In other schools the importance of dental attention is being realized by the masters, and facilities are readily granted for the boys to be treated.

There is a general tendency in public schools to appreciate the value of the dentist's services; this also applies to the Poor Law Schools.

The London Poor Law authorities are leading the way in providing the dentist with an outfit capable of enabling him to do effective work, and the provincial guardians, although far behind, have made a beginning, and it is only a question of time before they follow the example of the Metropolis, and give their children equal advantages.

## NECROSIS OF MAXILLARY BONES.\*

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BY A. E. WEBSTER, L.D.S., D.D.S., M.D., TORONTO.

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*Definition.*—The older writers on surgical pathology define necrosis as death of bone tissue *en masse*, while the more recent writers define necrosis as a condition of local death of single cells or groups of cells, whether of bone or of soft parts. This would seem to be the proper definition, as caries of bone is only applied to a specific degeneration, which will be dealt with later. Necrosis is a condition, not a disease, and may be brought about by various causes. Necrosis is two and one-half times more frequent in the lower jaw than in the upper. This difference in frequency is in all probability due to the greater vascularity of the upper jaw as compared with the lower, and in a measure to its more protected position.

*Etiology.*—The causes of necrosis are many. The general or remote causes are: any condition that lowers the vitality or reduces the resistance of the organism, such as pyemia, septicemia, tuberculosis, syphilis, typhoid, scorbutus, mercury and phosphorus poisoning, measles and small-pox; scarlet fever seems to be a very frequent cause. At this time we shall discuss only those local causes of necrosis that are most frequently met with in an ordinary dental practice. Traumatism, fracture of the jaw or blows, rough or violent extracting, may cause the death of quite large portions of the alveolus. In some cases these pieces of dead bone continue to come away from the gums for months after the accident. Accidental peeling off the periosteum from the bone by instruments that slip, has caused large pieces of bone to die.

*Chemicals.*—Applications of arsenic to devitalize pulps often cause necrosis when applied to teeth with very large apical foramina, as exist sometimes in deciduous teeth and permanent teeth not yet fully developed, or where the drug is allowed to get out of the cavity and come in contact with the gums. Chloride of zinc may produce the same effect. Hypodermic injections of drugs to relieve pain in extracting often cause a necrosis. Several such cases have come under the notice of the authorities of the college during the past few years. In the majority of these cases it would seem that the necrosis is due to the toxic effect of the drug injected, rather than to any infection or violence to the tissue in the operation. Freezing mixtures, such as ethyl-chloride, have caused a necrosis when applied to the gums to relieve the pain of extracting.

*Infection.*—Local pyogenic infection from diseased and dead

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\* Read before Ontario Dental Society.



teeth is the most frequent cause of maxillary necrosis. In such cases the inflammation may be so severe that the pulp, the tooth and quite an area of the alveolus will die. Rarely does necrosis occur in this way in the upper jaw, even when quite an area of the periosteum of the palate is dissected up by the burrowing of pus from an infected tooth ; but let such a condition exist in the lower jaw and there will certainly be a necrosis more or less extensive depending upon the condition of resistance and recuperation. The necrotic process does not necessarily extend through the entire thickness of the bone, but may be confined to the outer layers of the alveolus. Often the disease is so extensive that the entire bone is involved, but even in such cases the periosteum does not die, and if the case be properly treated the entire jaw will be reproduced. Necrosis of the jaws is not an infrequent occurrence. During the past four months six or seven minor cases have been met with in the college infirmary. While at the same time there are four cases of necrosis of the lower jaw with a history somewhat as follows : Girl, eight years old, first lower molar decayed, pulp dead, tooth became sore and elongated, severe pain, some swelling, chills, fever, loss of appetite and sleep, constipation, rise of temperature ; tooth extracted, swelling, pain and pus formation continued. Patient gradually became more and more exhausted until sent to the hospital. On examination there is found a thickening of the lower jaw from the ramus to the cuspid on one side. Gums over the area involved much inflamed, with one or two openings exuding a very fetid pus. One or two pieces of alveolus are easily removed, while the body of the bone produces a clinky sound and a peculiar hardness when tapped with an instrument, but cannot be moved. The pus is washed out of the sinuses twice a day with peroxide of hydrogen and boracic acid solutions until such time as nature separates the dead from the living tissue, then the sequestrum is removed and the cavity washed out with chloride of zinc solution and packed with boracic gauze. This separation of the dead from the living bone may not take place for months, and even when this has occurred it may not be wise to remove the sequestrum if it be needed as a support to the jaw while the new bone is forming. Acute osteo-myelitis of the jaws not having its origin in the teeth may occur as the result of an infection from some other focus in the body.

*Symptoms.*—The early symptoms of a necrosis are: chill, elevation of temperature, loss of appetite and sleep, and a general malaise, accompanied by acute, intense, bursting pain, soreness of the teeth in the region ; swelling is later and may extend down the neck or almost close the eye, according to location and influence of gravity. After the acute symptoms have subsided the pus burrows its way out around the loosened and swollen gums in the upper jaw, while in the lower it very frequently escapes from the under

side of the jaw or follows the loose cellular tissue to a much lower point before it finds an opening. The discharges have a peculiarly fetid odor, and if they occur in the mouth the patient may have nausea and vomiting and digestive disturbances, followed by emaciation—septicemia or pyemia, not infrequently occurring when there is absorption of the discharges.

*Diagnosis.*—The diagnosis is usually simple and can be made out from the history. On inspection there is a thickening of the jaw, more or less swelling of the soft parts, one or more openings exuding a fetid pus. If the bone be struck with a steel instrument it emits a hard clinking sound, while carious diseased bone is soft. As necrosis occurs most frequently in children, there may be some difficulty in distinguishing dead bone from a permanent tooth not yet erupted. Inasmuch as the sequestrum is not removed until it is loose, a differential diagnosis can be made by delay, as shortly the tooth will erupt sufficiently to come into view.

*Treatment.*—General supporting treatment, good food, open air, tonics, cod-liver oil; in the acute stage free catharsis, and if the pain be severe opiates serve a good purpose. Locally, cold applications may be useful at first, while later heat will be of more service. Scarification, free blood letting, counter irritation, hot water bags, all serve a good purpose. If pus be present the indication is to give free and efficient drainage. After the acute symptoms have subsided the pus should be washed out frequently with a permanganate of potash solution. No attempt should be made to remove the dead bone until it has become separated from the living. In such minor cases as are the result of slight injuries or inflammations of the alveolus the dead bone may be very readily removed without a general anesthetic with the ordinary dental instruments, which seem to be admirably adapted for the removal of small pieces of bone. The teeth need not be lost, even if a considerable portion of the process be removed as they may be banded together and held until such time as repair has taken place. In those more extensive cases, where a considerable portion of the jaw is involved, it is well to wait until any support that the dead bone may have afforded is no longer needed before an operation for its removal is undertaken. After the bone is removed the cavity is washed out and packed with boracic gauze.

#### MAXILLARY CARIES.

Caries of bone is generally spoken of as a molecular death, while necrosis is described as molar death. Zeigler described necrosis as "a local death of single cells or groups of cells." This definition includes caries as it is generally understood. What is usually spoken of as caries of bone is really a necrosis, as the result of a chronic inflammation, *e.g.*, as occurs in the gradual increase in the size of an abscess cavity by a solution of its walls.

Cheyne says, "The term caries was originally applied to all destructive or ulcerative changes of the surface of bone, but of late it has been restricted to those changes of the superficial layers occurring in connection with tuberculosis and syphilis. In general surgery the term caries is applied to the infiltration of healthy bone by granulation tissue until it becomes a spongy mass. Caries never occurs except in the presence of a specific irritant, which is for the most part tubercular or syphilitic in its origin. The pure type of caries is connected entirely with the formation of granulation tissue, and its slow substitution for the original bone. So long as pyogenetic infection is avoided, it assumes the dry type and is known as "caries sicca;" but if the granulations become infected with pyogenetic or putrefactive germs suppuration occurs and the moist form intervenes—"caries humida." The surface is almost always irregular, tunnels or canals are formed, and the bone is often honeycombed. Along with this process of osteoporosis and disappearance of bone at one point, may be seen osteosclerosis in the adjoining area, and the bone which is apparently much weakened in one point by the destructive process, is strengthened in a compensatory way by the artificial density of the tissue undestroyed. Tubercular caries of the bones of the face are most frequent in children. The disease progresses very slowly. The alveolar process is occasionally the seat of the affection. When the disease occurs in this region the route of infection is usually through devitalized teeth. Garretson, Marshall and others, mention cases of very extensive caries as the result of alveolar abscess. At the present time there are three cases of tubercular alveolar caries in the Children's Hospital of this city. In all of these cases the probable route of infection was through decayed teeth. Cook has found tubercular bacilli in putrescent pulps, alveolar abscesses and enlarged glands in the region round about. Thus there are strong reasons for believing that general tubercular infection may and does occur through the teeth and jaws.

*Symptoms.*—Early symptoms may be acute. The symptoms of caries are not very marked, being of a low type, never acute. Locally there is the thickening and the softening of the bone, as is made out on examination.

*Diagnosis* is made out from the history, the general symptoms of tuberculosis, the softened bone and discharge, if granulations are infected.

*Treatment.*—General treatment for tuberculosis.

*Locally.*—Granulations should be scooped out and cavity swabbed out with chloride of zinc solution, or an iodine solution, and the cavity packed with iodoform gauze.

## PYORRHEA ALVEOLARIS.\*

BY DR. W. G. L. SPAULDING, TORONTO.

*Mr. President and Gentlemen*,—In presenting this subject to you I will endeavor to present a few concluding principles which have been deduced by eminent authority from the chaos of many years.

What is Pyorrhea Alveolaris?

The name is an imperfect attempt at its definition, and means, "pus flowing from the alveolus." But the disease is presented in two phases, and for the terminology and much of the available information we are indebted to Dr. Black: (1) Calcic inflammation and (2) phagedenic pericementitis.

1. Calcic inflammation is that which arises from and is perpetuated by the presence of calculus upon the teeth.

2. Phagedenic pericementitis is generally conceded to have an infectious origin, but that is not yet sufficiently well established to warrant the use of that term in a definition. It is much more destructive and rapid in its course than the calcic form. It presents a pocket which extends towards the apex of the root, and does not tend to spread laterally around the tooth. Pressure over the pocket causes an exudation of pus, usually fluid, sometimes rather indurated.

In either form the gum tissue is inflamed, noticeably at the gingiva. Not very often do we find phagedenic pericementitis without some trace of calcic irritation, so that we may say that it usually is preceded by the first-named form: calcic inflammation.

The formation of pockets under the gum tissue at the necks of the teeth, the low ulcerative process which takes place within them, the destruction of the bony plate of the alveolus and the breaking down of the gum tissue of the pocket by sloughing away, are observed so frequently by you all that mention is hardly necessary.

Of the calcic deposits we have two varieties, salivary and serumal. The salivary calculus is, so we are told, built up around the teeth through the agency of that commonplace germ: *leptothrix buccalis*, from material presented by the saliva. The serumal calculus is deposited on the teeth only where the gum tissue is in contact with the tooth. It is harder and darker than the first variety, and we are told that it is deposited not from the saliva but from the blood serum.

The continued irritation of the gum tissue by these deposits, assisted in the phagedenic form by infection, causes a sloughing of the free margin, and consequent recession. The destruction of

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\* Read before the Toronto Dental Society.

peridental membrane takes place with the recession of gum tissue. Pain is quite frequently a symptom, and varies from a dull, grumbling pain to intense paroxysms, which may be reflected to the eye, ear or other teeth.

In spite of many nice theories, the cause of pyorrhea remains somewhat obscure. Some have decided that the cause is purely local, others that it is constitutional, and yet others that it is both local and constitutional. Until one can hold a satisfactory opinion he had better not flaunt it, lest he should grow to be too well satisfied with it.

There is an opinion that uric acid is at the bottom of the trouble, but we so frequently see just a few teeth, perhaps only one, which appear so affected that we look on that suggestion with at least some misgiving. There is, however, ample room for observation of uric acid in pyorrhea. Dr. Black says that he finds uric acid in the deposits on all the teeth, irrespective of pyorrhea.

In commencing to operate on a mouth, the first thing to be done is to remove all deposits from the teeth and discover any pockets that may exist. If this were always done, some dentists would not have the difficulty they complain of in getting an adequate fee for such time-consuming operations. Better opportunity is given the operator to discover incipient caries, and the patient learns the lesson of "appearing with a clean mouth."

With instruments which have thin, spring-tempered blades, remove all deposits above and below the gum margins. This is better done with a pushing motion than a drawing cut, because it is quicker and more effectual, and the instrument is more sensitive.

The edge should be sharp to be sensitive, and honed to a square or very slightly bevelled end, preferably having a little bite. Great care should be taken to avoid wounding at all the gum margin, for your object is to reduce and not to add irritation; and so the operator should be possessed of a sufficient variety of forms of simple scalers to reach with ease all positions on the teeth. Too many instruments are of decided disadvantage.

The deposits at the lateral margins of a pocket are the most trying to remove, and some wounding is unavoidable in many cases. All fragments should be syringed out with a syringe which has a sterilized platinum point which can be passed to the apex of the pocket. In difficult cases it is quite permissible to make a small semi-circular incision over the apex of the pocket, so that fragments of the calculus may be flushed out. It is important that this be done as soon as the particles are dislodged, tooth by tooth, so that they be not held by a firm blood clot.

This operation is much more trying than many of the operations we are called upon to execute. A sensitive instrument, a fairly good sense of touch, and mental application at the point of your instrument are indispensable.

It has been claimed that restoration is better effected when the surface of the cementum has been removed, on account of the canaliculi and lacunæ calcifying when the normal covering has been withdrawn.

In washing out pockets use any of the approved mouth-wash solutions or carbolic acid, five per cent. solution, in water; but use them warm. (The solution should possess germicidal properties.) A mild escharotic may be used after the operation, but it is an advantage to use one that is astringent, such as zinc-chloride solution. Never use it repeatedly, for you have not any tissue to spare that you may with impunity skin the surface.

Having completely removed the deposits and treated as above, it is necessary, where the teeth are loose, to apply some device to hold them rigidly until they become firm, or, if they will never stand alone, an appliance should be placed upon them which is intended to remain. Wire and silk ligatures are crude and inefficient in my hands—wire difficult to manipulate, and silk dirty and destructible. Vulcanite stay-plate is unclean, and even with ligatures is not as good as the device which Dr. Case uses for retention of teeth in orthodontia. It is at once efficient, clean, comfortable and not unsightly.

The patient must be instructed in oral prophylaxis and a mouth-wash prescribed for use two or three times a day, with frequent but very gentle massage of the gums with the fingers.

In about a week the patient should consult the dentist again, and if there does not appear some intention of union between gum and cementum, the pocket should again be subjected to sterilizing treatment; but great care should be taken not to overlook the possibility of a delicate adhesion.

Pyorrhœa *may* tend to recur, of course, and it will be necessary for the patient to adopt a system of care of the mouth, including tooth-brush and mouth-wash exercises.

I have purposely avoided mentioning much application of medicine, locally or systemically, because pyorrhœa *must* be treated surgically and on surgical principles.

If debility is manifestly one of the predisposing causes, a suitable systemic remedy is in order. Efforts have been and are repeatedly made to popularize some drug for the cure of pyorrhœa, but I think, with Dr. Oliver Wendell Holmes, outside of the medico-bacteriological aspect of it, that if the bulk of materia medica as it has been practised were dumped into the sea, it would be so much the better for man and so much the worse for the fishes.

## Selections.

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### GOLD CAPSULE IMPLANTATION,

BY CLYDE PAYNE, D.D.S., NEW YORK.

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Modern surgery is mending wounded parts, following knife thrusts by stitching the edges of the wound.

Injuries to the head are repaired by inserting gold plates to protect the brain, to take the place of that portion of the skull lost.

Silver elbows and gold femurs, covered by the soft tissues, are tolerated by nature and are serviceable.

Broken bones of the arm and leg are repaired by uniting the broken ends by means of a silver splint, held in place by small screws.

The wounds heal kindly, and the metals become a part of the human anatomy, adding strength and comfort to the injured part.

Dentistry is not behind in the advancement made in modern surgery. I can offer you now with certainty an operation that will revolutionize the old methods. This new operation I will term: Implantation of a Pure Gold Capsule; or, The Gold Capsule Implantation Operation. It is the implantation or insertion of a gold capsule or root, the exact counterpart of a root extracted, or the exact adaptation of a gold capsule to an opening made in the alveolar process of any size or shape for the attachment of a tooth, or any number of teeth, on a bridge.

The operation may be described as follows: Inject the gum where a tooth has been lost with a 2-per-cent. eucaine solution; open the gum on the lingual side of the middle of the alveolar ridge; bring the gum forward for restoration and natural effect, and with a small trephine make a well one-half the size of the root extracted. The trephine will make an opening the same size from the point entered to the bottom of the well. Enlarge this well at the bottom mesially and distally with a fine gold-finishing bur. Select a gold capsule the exact size of the trephine; fit this into the well; fill this with kneaded soft rubber. Compression of this rubber by hand-pressure will spread or expand the soft pure gold cup into the slight enlargement made at the bottom of the well, and will so perfectly adapt the gold that it is firm and immovable at once.

It gives no pain. The pressure is so slight it is not felt, and is equal in every part of the cavity. The tissues, both bone and gum, heal around it quickly by first intention.

This rubber is removed after moulding the gold to the well, and to this gold root a crown or bridge can be firmly attached at leisure.

I fill this gold cup or root with gutta-percha and attach a crown by means of a pin nearly large enough to fill the gold root. This may be done by fitting a second cup inside the one planted and fitting a porcelain crown to this second capsule. It can be brought to the margin of the gum and fitted accurately to the upper margin of the porcelain tooth, and so accurately that no gold will be seen.

The operation requires accurate trephines and gold capsules of exact size. Do not imagine that the operation can be performed by instruments in every-day use. Do not try it. It will mean failure to attempt it in a careless manner.

Absolute cleanliness and sterilization are necessary for quick healing. Keep the mouth clean after the operation.

This operation has its advantages over the old method of implanting natural teeth, as there is no danger of infection or blood-poisoning that might arise from planting a root or a natural tooth from some other person of which you have no history.

Another great advantage is, that it is not necessary to tie them in by means of fine silk twist until healing takes place; they are firm from the start.

Case A.—Miss G. Age, 20 years. Left superior lateral extracted two years previous and a plate worn to fill the space. A small fragment of root remained. This was removed after injecting three drops of a 2-per-cent. solution of cocaine on either side of the process deep and very close to the periosteal tissue. The socket was deepened a quarter of an inch. Implanted a pure gold capsule, attaching a porcelain facing with the pin and pure gold backing. No pain followed the injection of the 2-per-cent. cocaine. Slight soreness for the two days following, and at the end of the week the tissues were in a normal condition. The tooth is strong and serviceable and looks as well as any tooth in the mouth.

Case B.—Mrs. C. R. Age, 41 years. Right superior first bicuspid missing. Well cut with trephines through gum into process. Cup inserted and filled with a kneaded rubber expanded to accurately fit the well. Facing fitted to this. Slight soreness for four days, and at the end of two weeks absolutely normal condition.

Since the original operation for the implantation of natural teeth many attempts have been made to implant leaden roots and other metallic materials. All have proved unsuccessful, but each man has been a bright star in the firmament of science, all going to make up the ultimate success and reward that attends doubtful effort.

What this operation may bring to the glory and advancement



of dental science is yet to be seen and stamped with the approval of the profession. There will be many failures due to the lack of detail, a lack of knowledge of the anatomy and conditions present, and undertaking cases where it is impossible to secure sufficient depth to implant and retain the capsule.

The implantation of natural teeth is a success in a degree, the attachment being an ankylosis or gomphosis—a close adaptation of bone about the root. When the operation is properly done, the tooth is retained from three to nine years.

It is remarkable what the tissue of the mouth and alveolar process will tolerate. Those who attempt this operation of the gold capsule implantation will be astonished how soon all soreness and tenderness will disappear. The wound heals kindly, and at the end of two weeks the tooth is comfortable and as useful as the natural teeth.

Be conservative; hold for the things that are good, but remember that as we use, successfully, the products of brains of a generation ago, just so will the future hold for us many operations that at first impression seem impossible, or at least not practicable.

The forerunner of all scientific achievement is prejudice, and the world-wide tendency is to let well enough alone.

If your great-grandfather were to be brought among us to-day, and you told him that you had a machine that could talk, and that he could talk to you in Chicago, and you were to tell him of the many other wonderful things that science and effort have accomplished, it would appear to his mind absolutely impossible. Your first impression of the implantation of the gold capsule will so impress you.

It is not what we think about anything, for, when we say we "think" we confess we don't know. So, let us investigate and know all for our future good.

The entire success of this operation, aside from the proper anti-septic precautions in the preparation of the socket, depends upon the judgment and the accuracy of your adjustment of the capsule to the well or cavity cut in the alveolar process and jaw.

I will not attempt to give any "whys" or "wherefores" or explanations of the manner in which the capsule is retained to carry successfully the crown or bridge. Discussion of the operation in future will bring that out. The fact remains that the evidence will be produced in patients I shall present at the next meeting of this Association, my absence in New York at this time making it impossible to be present.

I give you the idea and the result of my efforts, and it remains for you to develop it, and know, as I do, that many of my patients will not be doomed to a lifetime of discomfort and inconvenience from a plate and its attendant evils.

Implantation of the natural teeth has been a failure in the

hands of many men in the past, due to the fact that many dentists who have attempted the operation have overlooked the anatomical conditions. The process labially is extremely thin, and in cutting a socket is frequently destroyed, so that there is nothing remaining but gum covering the root of the implanted tooth. This forms a pocket for infection, the formation of pus and ultimate failure of the operation.

After the extraction of a natural tooth or root, and the usual shrinkage of the alveolar process following, a full-sized normal root cannot be implanted; therefore, it is necessary to implant a small root or gold capsule one-half the size of the natural root, in order to have it completely surrounded by a bony tissue.

The capsules are made of 32-gauge pure gold in the following manner: Use an ordinary Morrison draw-plate, or any draw-plate for that matter. Reduce a small gold disk in cartridge form to the smallest hole. The capsule will yet be too large in diameter. Continue the reduction of the capsule through the Kienzle wire gauge draw-plate to No. 28 for the centrals and laterals. I had mandrels made for every other hole, and it will be necessary for you to do the same. The No. 28 hole you will require for centrals and laterals. For bicuspid, or where you have abundant tissue, you can use a slightly larger capsule, dependent upon the amount of hard tissue, after the extraction of the tooth and the absorption that follows.

I recommend two sizes of trephines, Nos. 2 and 4 Walker-Younger (S. S. White Co.), and Alport's C and D bone burs (S. S. White Co.). The D bur will cut down the spicula of bone at the bottom of the well after using a trephine, and the C bur will enlarge the opening at the bottom mesially and distally to receive the expanded cap. A heavy lance should be used, and I prefer the S. S. White Co.'s heavy straight blade, ground to a stub. With this I open the gum, and with it raise the periosteum, bring it forward before introducing the trephine to secure restoration and a bone deposit at the cervical margin.

#### DISCUSSION.

President Lewis.—The paper is now before the Association for discussion.

Dr. F. L. Platt—Mr. President, I think one or two things might be said in regard to this paper. It should be commended on one account, that is, that it presents something new. We are too much given to rehashing old subjects at our meetings. When something new is brought forward, regardless of its actual worth, I think that move should be commended. The paper states that the operation is a success. I do not think that has yet been proven. The fact that one of these capsules may be retained in the mouth for a time does not demonstrate that it has any par-

particular value. I think that the Doctor has overreached himself a little, and also the gentleman who has discussed the paper, in stating that the operation has been proven a success. It should be received with some degree of consideration. While the experiment perhaps is worth trying, it is doubtful whether it will prove of permanent value. It is true, as he states, that the metals gold and silver are used in surgical operations successfully. This operation is still an experiment. While it may be taken up and further developed, the statement made is a little premature. There is no question but that Dr. Payne has opened a new field, perhaps, in dental surgery. He is an experimenter, and a bright man. I hope that the work he has taken up will prove a success, and that numbers will be led to try the experiment. It certainly can do no harm, and possibly it will lead to something of value.

Dr. C. B. Root—Mr. President, when we come to consider how easily bone yields to pressure, how easily it is absorbed, as shown in the case of tumors and in the case of aneurism, I am afraid we will have to question very severely the success of this operation, if the teeth are subjected to any considerable pressure.

Dr. W. F. Lewis—Mr. Chairman, I would like to say just one thing that has occurred to me in listening to the paper. The claim is made that gold and silver are imbedded in other portions of the human anatomy and allowed to remain permanently, which I think is true; but this point contains an objection: there is nothing attached; it does not hold anything in particular; there is no strain upon an implantation of gold, or on a suture of silver, or a tube or for whatever purpose it may be used. In this case you will have a strain. This implanted capsule must bear the weight of the attachment. That just occurred to me in listening to the reading of the paper. To my mind it is going to be one of the most serious objections, and, I think, would militate against success.

Dr. L. A. Teague—Mr. Chairman, in the last few words he mentions a very important factor in the operation. It is simply a dovetailing of the capsule in the alveolar process, in order to retain it there. As long as nature retains this, and it does not irritate the surrounding tissues, and it can be kept there in the dovetailed way, that seems to me to be a practical idea that appeals to our common sense. But as far as implantations generally go, I have not given it much credit; I have deprecated the idea of implantation from the start, from the very fact that it is altogether too heroic an operation for the minimum of success that accompanies it. I have failed yet to see a tooth that has been implanted that would justify the operation. I have seen one or two that have been pretty good. I do not consider three years or six years of sufficient importance to warrant an operation so heroic as implantation. At the same time this operation described by Dr. Payne,

from the mere fact that gold is a metal that may be tolerated almost better than any other, and that it is dovetailed in there, suggests the idea that it may be of practical use. We know of an operation of that nature that was brought out here by Dr. Carr. The idea was the implanting of roots in the alveolar process. Although it was taken up with enthusiasm by many that saw it, yet there are many of us who have some mechanical ideas who did not like it. The idea of inserting four posts in the alveolar process, and expecting them to retain a full upper denture was a ridiculous idea. Of course it was brought as a startling proposition and a new one, and it was accepted by a great many that did not give it the proper thought that it required. This, however, seems to me to be the most practical proposition that we have yet had before us. The spreading of the capsule, as illustrated by the Doctor, is a thing of great importance in the operation.

Dr. C. B. Root—Mr. Chairman, I don't think that you can compare that operation with implantation. In the implantation of a tooth every part of the tooth may resist a certain pressure. But in this gold capsule operation the thing rests pretty closely against the walls, and a slight pressure would be sufficient to allow it to move. If the pressure is forward or back it will be only one part of the bone against which the capsule rests that will resist the pressure, instead of the whole root of the tooth, as in the case of an implanted tooth.

Dr. J. N. Ward—Mr. Chairman, if the tooth can be made so as to be perfectly immovable, it might be a success, but, as Dr. Root has said, the slightest pressure would be sufficient to disturb it. With a natural tooth, it seems to me, there is a natural cushion to relieve that strain. In this case you get no cushion at all. You all know how easy it is to move a tooth with a little piece of cotton or anything else. It is impossible to retain that tooth immovable in the mouth; it is bound to move more or less, perhaps a great deal more.

Dr. Thomas Fletcher—Mr. Chairman, I would ask the members of the Association if any of them ever had any success with that method set before us at the Midwinter Fair Dental Congress, of which Dr. Teague has spoken. I saw two cases only where they had been used, but the set post was not there at the time I saw the cases. I had to use the old-fashioned method to restore the lost tissues, and had a little more lost tissue to restore than I should have had otherwise. I would like to know if any have had personal experience with those posts that Dr. Carr showed us at that time—if they can give us a suggestion as to the utility of that class of apparatus?—*Pacific Dental Gazette.*

## Proceedings of Dental Societies

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### ROYAL DENTAL SOCIETY.

At the last meeting of the Royal Dental Society the following officers were elected for the session of 1900-1901: Hon.-President, Dr. J. B. Willmott; President, K. C. Campbell; Vice-President, A. G. Fraser; Secretary, C. W. McBride; Treasurer, W. S. McKay; representative from the junior class, Badgley; representative from the freshman class, Little. The society meets in the college building once a month. Its aim is to further dental education and interest students in the workings of dental societies.

The society held its first meeting in the college building on Monday evening, November 12th, which was attended by a number of the students and the Dean and Dr. Webster, of the Faculty. The meeting was opened by a mandolin selection by Mr. Badgley, who responded to a hearty encore. The president in his opening remarks pointed out the object of the society and predicted a pleasant and profitable time for those who attended the meetings during the term. Dr. Willmott and Dr. Webster both gave short addresses pointing out the advantages of such a society and hoping that the present year would surpass, in interest, all previous ones.

A paper on "How to Study" was given by Mr. French. Many practical points of use to students were brought out, and Mr. French deserves great praise for his very excellent paper. The memory was dealt with under three headings: the power to acquire, to retain and to reproduce at will. A very animated discussion followed in which several members of the class described their own particular manner of studying.

C. W. McBride read a paper on "The Exclusion of Moisture in Dental Operations." The discussion was opened by Mr. Hoggan, and many little points which count in dentistry were brought out before the discussion closed. After singing "God Save the Queen," the meeting closed. The society will meet again about the middle of December.

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### NIAGARA FRONTIER DENTAL SOCIETY.

The membership is made up of members of the profession in Niagara Falls, N.Y., and Niagara Falls, Ontario. Officers: President, Dr. Pringle; Vice-President, Dr. Thompson; Secretary, Dr. Magee; Treasurer, Dr. Dudley.

The regular monthly meeting of the Niagara Frontier Dental Association was held on November 5th at the Prospect Park

House. The members present at the meeting were : Drs. Pringle, Cooley, Redpath, Dudley, Thompson, Magee and Gates. Guests : Dr. Butler, of Buffalo ; Dr. Sharp, of Lockport, N.Y., and Dr. Moyer. After a sumptuous dinner had been served by the host, Mr. Williams, and ample justice done to the excellent menu, Dr. Butler read an interesting and instructive paper on " Articulation and Prosthetic Dentistry," also demonstrating very clearly his subject with charts and models. The paper was thoroughly enjoyed by all. Dr. Cooley opened the discussion and brought forward some very good points, after which the meeting was thrown open to general discussion, in which Drs. Sharp, Gates, Redpath, Dudley, Thompson and Magee took part. Dr. Butler closed the discussion. A vote of thanks was tendered Dr. Butler for his kindness in coming from Buffalo on a such a stormy night and reading a paper before our association.

Our society meets the first Monday in each month except June, July and August.

Dr. Stanton, of Buffalo, has consented to give us a paper in the near future.

Yours fraternally,

ARTHUR B. MAGEE, Secretary.

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## ROYAL COLLEGE OF DENTAL SURGEONS.

Biennial election of the Directors of the Royal College of Dental Surgeons of Ontario ; nominations closed November 10th. District No. 1, Dr. G. E. Hanna, elected by acclamation ; District No. 2, Dr. J. A. Marshall, elected by acclamation ; District No. 3, Dr. J. F. Adams and Dr. J. A. Mills are in nomination ; District No. 4, Dr. C. E. Klotz, elected by acclamation ; District No. 5, Dr. A. M. Clark elected by acclamation ; District, No. 6, Dr. A. H. Allen and Dr. W. A. Brownlee are in nomination ; District No. 7, Dr. H. R. Abbott and Dr. C. H. Zeigler are in nomination. In contested districts the ballots will be counted on December 12th.

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## SEVENTH AND EIGHTH DISTRICT SOCIETIES OF NEW YORK.

The thirty-second annual union convention of the Seventh and Eighth District Dental Societies of the State of New York was held in the Genesee Hotel, Buffalo, N.Y., October 30th, 31st and November 1st. The Programme Committee presented a very attractive list of essays and clinics. The following were the distinguished guests of the Society : G. V. Black, M.D., D.D.S., Chicago, Ill., President of the National Dental Association ; A. H.

Peck, M.D., D.D.S., Secretary of the National Dental Association ; H. J. Gosler, D.D.S., Secretary of the Institute of Dental Pedagogics ; F. J. Capon, M.D.S., D.D.S., L.D.S., Toronto, Ont. ; F. H. Milliner, M.D., Buffalo, N.Y. Dr. H. R. Abbott, of London, Ont., opened the discussion on a paper by L. P. Austin, on "The Care of the Temporary Teeth."

Among the Toronto dentists who were in attendance were: Drs. Capon, McDonough, W. E. Willmott, Trotter, C. E. Pearson, Zeigler, Wilkinson, Caezer, Webster, Husband and Ross. The Canadians were granted the privileges of the meeting and were welcomed in a most royal manner.

Dr. Abbott, of London, on behalf of the Ontario Dental Society, invited the members of the Union Convention to attend the Ontario meeting.

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### TORONTO DENTAL SOCIETY.

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The November meeting of the Toronto Dental Society was held in the Dental College building on Tuesday evening, 13th inst. The President, Dr. A. E. Webster, delivered an inaugural address, during which he described some of his experiences and gave a few of his observations while abroad and at the World's Dental Congress in connection with the Paris Exposition, in which he took part.

A resolution was passed to memorialize the Ontario Dental Society to hold its annual meeting in February as usual.

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### SUPPLEMENTAL EXAMINATIONS OF THE ROYAL COLLEGE OF DENTAL SURGEONS OF ONTARIO.

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The supplemental examinations of the Royal College of Dental Surgeons of Ontario were held in the college building, beginning 9 a.m., September 28th. Twenty-one candidates presented for examination, out of twenty-nine who were eligible to write.

The following candidates completed the first year: Alexander, French, McKenna, Peaker and Thompson. Arnold, except practical technics.

The following candidates completed the second year: Frezell, Mason, McKay, McLaren and Purdy. Cerswell and J. A. Robertson passed in practical chemistry.

The following candidates completed the final year and were granted the title of Licentiate of Dental Surgery: Bentley and Hoskin. McKercher completed the final year except practical dentistry.

# Dominion Dental Journal

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W. GEORGE BEERS, L.D.S., D.D.S. - - - MONTREAL, Que.  
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VOL. XII.

TORONTO, NOVEMBER, 1900.

No. 11.

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## RECIPROCITY BETWEEN THE PROVINCES.

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As predicted in the October number of this volume, the paper of Dr. McInnis is provoking a discussion of interprovincial registration. The President of the Quebec Dental Association, in his annual address, speaks as follows: "We are indebted to the DOMINION DENTAL JOURNAL for keeping the question of inter-provincial registration before us. It seems absurd that, upon the plea of protecting the public, well-qualified practitioners should be unable to legally practice outside the province in which they were educated. Could we not, as a first step in the direction of greater liberty, admit licentiates from other provinces to examination, providing they could give satisfactory proof that they had taken a course equal to our own, and also that the province from which the applicant came would give our licentiates the same privileges? When we have some such arrangement between the provinces, we might then try whether the authorities in Great Britain would be willing to reciprocate, and admit us to their examinations."



The following extract from the minutes of a meeting of the Directors of the Royal College of Dental Surgeons of Ontario, held October 17th, 1900, shows conclusively which way the wind blows in Ontario :

"The attention of the Board having been called to the proposition made in a paper read by Dr. McInnis, of Brandon, at the Western Canada Dental Association, and published in the September number of the DOMINION DENTAL JOURNAL, to establish a Dominion Dental Council, after discussion, it was moved by Dr. Willmott, seconded by Dr. Hanna, and resolved :

"That this Board approve of the formation of a Dominion Dental Council, organized by approval of the legal representatives of the profession in the several provinces, whose duty would be to conduct a dental examination, on a standard, as high or higher than that of any of the provinces, and whose certificate would admit to practice in any of the provinces of the Dominion. Such council and examination not to interfere in any way with the local provisions for qualification for registration in any of the provinces. The Board further expresses the opinion that on account of the expense involved, the proposed council should not consist of more than one representative from each province, and possibly one from each school. That the President and Secretary be a committee of consultation, if occasion arises."

The President of the Toronto Dental Society said in his inaugural address: "The subject of reciprocity or interchange of dental licenses between Great Britain and Ontario, should be of interest to this Society. The one great barrier to this and to many other things that would be of advantage to the profession of Canada, is the fact that there is no Canadian or Dominion dental educational standard. It is hard, and I think it almost impossible, to get Great Britain to make separate arrangements of reciprocity with each province. Mr. Morton Smale, a member of the British Council, said to me: 'There would be no difficulty if the Canadians only had a common dental educational standard.' Thus, it would seem to be our duty to expand from a state of provincialism to one of Dominionism, and, no doubt, later, from one of Dominionism to that of Imperialism. In this way we will be raised from the mere confines of a province to one of greater opportunity and responsibility, and with this responsibility will come the development of a profession that will be national in character. Each member of this society will be a better citizen for the thought, if nothing more, of belonging to a united profession, in a united Dominion and a united Empire. Professionally, dentists are prone to become narrow, because of the highly specialised character of their work, and of the isolation one from the other. This expansion of our professional acquaintance and responsibilities would tend to broaden our minds and make us better dentists and better citizens."

Having had an expression of opinion from Manitoba, Quebec and Ontario, it remains for the Maritime provinces and British Columbia to speak. As soon as each province has expressed a desire for reciprocity, the means by which it may be brought about may be considered. In this connection it might be well to call attention to the simple and yet efficient scheme of the Board of the Royal College of Dental Surgeons of Ontario. By this plan the Provincial Dental Boards would go along as before, granting licenses to those candidates that come up to their requirements, but all candidates wishing the right to practise in any province in the Dominion would have to take the examination of the Dominion Council. Candidates would take the examination of the Dominion Council because of the higher standing it would give them in the profession. The examinations being as high or higher than that of any province, would force the colleges to come up to the highest standard, or their candidates would not pass. With these influences the standard of dental education in Canada would be raised.

A. E. W.

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### HERBST'S PRIZE.

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The Herbst prize of one thousand marks has been intrusted to the "Berliner Zahnärztlichen Gesellschaft" for disposal.

The whole prize is to be given to such applicant who is able to give a means or method by which the sensitiveness of the dentine is so reduced, without detriment to the vitality of the tooth pulp, that a painless excavation of the cavity of the tooth can be performed.

Should no means or advancement in this direction be found efficient, then the prize, whole or divided, shall be given for scientific work which will further the practical part of dentistry.

Applicants are kindly requested to forward their works to the undersigned not later than October 1st, 1901.

DR. ZIMMERMANN.

i Vorsitzender der  
Berliner Zahnärztlichen Gesellschaft,  
Berlin, Leipzigerstr, No. 39.

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### DEATH OF C. H. HUBBARD.

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Mr. C. H. Hubbard, who has for years been one of the leading dental dealers of Canada, died November 16th, at the residence of his son-in-law, Dr. Beattie Nesbitt, 71 Grosvenor Street, Toronto.

## Reviews

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*Polk's Dental Register of the United States and Canada.* Comprising list of dentists arranged by states and provinces, giving post-office address, with population and location, date and college of graduation; all the existing and extinct dental colleges in the United States and Canada, with location, officers, number of professors, lecturers, demonstrators, etc.; Dental Societies; a synopsis of the laws of registration and other laws relating to the profession in each state and province; dental journals, etc., and an index of dentists in the United States, arranged alphabetically. 4th edition, 1900-1901. Price, \$10. R. L. Polk & Co., Detroit, Baltimore, Chicago. Pages, 1006.

A most practical, interesting and valuable contribution to the dental library; useful to anybody who wants to know the names and location of dentists, societies, officers, laws governing the profession, etc., etc. An immense amount of information carefully and concisely put together.

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*Dental Metallurgy.* A manual for the use of Dental Students and Practitioners. By CHARLES J. ESSIG, M.D., D.D.S., Professor of Mechanical Dentistry and Metallurgy in the Dental Department of the University of Pennsylvania. New (4th) edition, thoroughly revised by AUGUSTUS KOENIG, B.S., M.D., Demonstrator of Metallurgy in the Dental Department of the University of Pennsylvania, and Assistant Demonstrator of Histology in the Medical and Dental Departments, University of Pennsylvania. In one 12mo. volume of 277 pages, with 43 engravings. Cloth, \$1.75 net. Lea Brothers & Co., publishers, Philadelphia and New York.

In the original preparation of this work the greatest care was exercised to make it so plain and systematic that the interest of students might be at once enlisted. The work acted as a stimulus to dental teachers, and metallurgy soon became an important part of the instruction offered by the chairs of "Mechanical Dentistry and Metallurgy." Both in the United States and abroad the little volume seemed to find a void, and it was soon translated and used in foreign colleges. The call for a fourth edition comes most opportunely. To meet the needs of all concerned—students, teachers and dentists—the work has been subjected to a most searching revision. As now issued it is believed to be complete as a laboratory

guide, a practical working manual and a book of instruction. No effort has been spared to make it represent the latest and best knowledge with scientific accuracy, directness and simplicity. One of the most valuable additions to the fourth edition is the series of experiments for the use of students in dental colleges having laboratories for the practical study of metallurgy. These experiments, which have been carefully thought out and adapted to the wants of students beginning the practical study of the subject, are illustrative of the physical properties of the metals in general. An accurate understanding of the properties of amalgams being of the greatest importance, the chapter on that subject has been thoroughly revised and made to embody the latest investigations in that class of compounds. An epitome of the recent discoveries of Professor G. V. Black, together with illustrations of his instruments for the measurement of shrinkage or expansion, crushing stress, etc., has been introduced into the chapter on amalgams.

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*The American Text-Book of Prosthetic Dentistry.* In contributions by eminent authorities. Edited by CHARLES J. ESSIG, M.D., D.D.S., Professor of Mechanical Dentistry and Metallurgy, Department of Dentistry, University of Pennsylvania, Philadelphia. Second edition, revised and enlarged. In one octavo volume of 817 pages, with 1089 engravings. Cloth, \$6.00; leather, \$7.00. Lea Brothers & Co., Philadelphia and New York. 1900.

This work was originally prepared to answer the need for a comprehensive and authoritative exposition of the principles and practice of the art in its most modern development. The early exhaustion of the first edition has stimulated the editor and his collaborators to make the second edition in every respect more worthy of the good opinions so fully expressed of its predecessor. To that end it has been subjected to thorough revision. Since 1896 plans, operations and methods have developed and broadened to an extent unparalleled in the history of dental art, necessitating a material increase in space; and rich as the previous edition was in illustrations, the number in the present one will aggregate nearly eleven hundred, many of which are entirely new and original, and designed to elucidate special and peculiar devices and procedures not heretofore shown in any text-book. These, it is confidently believed, will greatly increase its value as a clear and thorough laboratory manual for the undergraduate student and for the dental practitioner. There are contained within the pages of this edition descriptions of methods and appliances which a consensus of opinion has declared to be the best that dental prosthetic art has

evolved, and it is confidently believed that a mastery of the methods presented will give the student an unusual command of the subject throughout its many branches. Lucidity of description and the greatest number of carefully-drawn illustrations that have ever appeared in any work on prosthetic dentistry are the means employed to render the text as clear as words and pictures can make it.

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The following books have recently been published by the S. S. White Company. Reviews will appear later—

*Mal-Occlusions of the Teeth and Fractures of the Maxilla.* By EDWARD H. ANGLE, M.D., D.D.S.

*Principles and Practice of Filling Teeth.* By C. N. JOHNSON, M.A., L.D.S., D.D.S.

*A Practical Treatise on Artificial Crown and Bridge-work and Porcelain Art.* (Sixth edition.) By GEORGE EVANS.

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*The British Dental Journal*, an independent weekly, after an existence of nearly three years, has had the same ill-luck as the weekly founded in the United States by Dr. Catching. The proprietors announce its suspension.

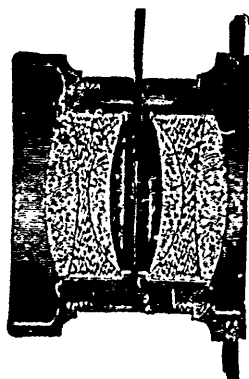
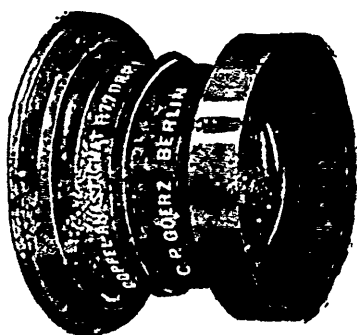
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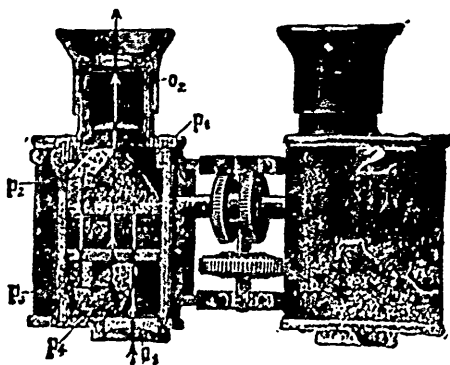
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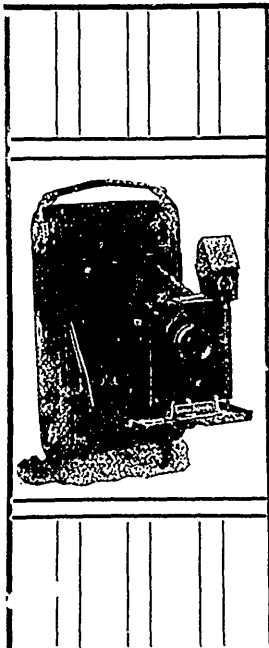
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