Dear Colleagues:

The Third Annual Meeting of the Medical Collectors Association was held at Chapel Hill, North Carolina, and was a great success. The meeting was attended by approximately 30 people and included a reception at the Carolina Inn by the Dean of the medical school, as well as the formal sessions, and a very small dealers' session. All of us are greatly indebted to Larry Vincent who did all of the work and, unfortunately, was unable to attend the meeting because of his recent change in positions. All-in-all everyone at the meeting had a wonderful time and I urge those of you who have not attended the meetings to try to come to the fourth meeting, which will be held in Cleveland. Olgierd Lindan has agreed to host the meeting, which will take place probably between July 27th and July 29th of 1989. In addition, it is likely that a small reception will be held in conjunction with the meeting at the Dittrick Museum. Please mark off those dates, July 27th-29th, 1989 to plan to attend the fourth meeting in Cleveland.

Returning to our experiences in Chapel Hill, the only downside was an unfortunate accident which prevented Rosalind Berman from getting to the meeting, since she wound up in the hospital. However, I understand that she is convalescing quite nicely.

A recent communication from Larry informs me that $130 was left over from the various fees collected and this is being donated to the Rare Books Library of the University of North Carolina in the name of the Medical Collectors Association. I think it is nice that once again the Association has had a successful meeting and is able to lend some support to a worthy medical history cause. Thanks again to Larry Vincent for a job well done.

One last note about the meeting is recognition of Jack Rubin's very fine effort in creating an exhibit of antique medical instruments, which are in the care of the University. A brief description of the medical instrument exhibit is included in the Newsletter under the title "News and Views". We are also grateful, of course, to Nancy Austin of the Rare Books Library, Stuart Bondurant, Dean of the medical school, and all those individuals at Chapel Hill who helped to make this meeting a success.

Several additional items are included in the Newsletter. A letter was given to me by the owners of Patterson's Mill and Country Store which they received from a Professor J. Beck. Professor Beck is working on
an unusual research project and he is seeking related materials. Perhaps some of the membership can be of help to him. His letter is included in the Newsletter. We have also received a letter from Keith A. Nier of the Thomas Edison papers, who is searching for an Edison Inductorium. A copy of his letter to me, as well as of the description of the object, is included in the Newsletter. Any of the members who are aware of the location of this device, or who can help Mr. Nier acquire one, should contact him directly.

I recently received a brochure from the Science Heritage Library about a group of volumes devoted to the history of microscopes and microscopic technique. Since this appeared to be something of interest to the membership, I have included the brochures in this mailing of the Newsletter.

We have also received a query from Dr. Harry J. Gloetzner concerning the Burleson & Burleson Rectal Clinic of Grand Rapids, Michigan. If any of you know of the existence of this company or its significance, please contact Dr. Gloetzner directly. A copy of the stationery is included with the Newsletter, as well as the formal request by Dr. Gloetzner.

Dr. Sam Eichold has brought to my attention the formation of the Heustis Medical Museum. I enclose with this Newsletter the brochure from the museum which describes its organization and purpose. Dr. Eichold is laboring valiantly with very little funding to create a medical museum from scratch. Any instruments which any of you are able to donate to the museum will be greatly appreciated. Dr. Eichold will provide an appraisal to any individuals who wish to donate things to the museum, should they wish to utilize the donation for income tax purposes. Dr. Eichold may be contacted at 2451 Fillingim Street, 415 Mastin Bldg., Mobile, Alabama 36617.

Once again, we are indebted to Bill Helfand and Bob Kravetz for their ongoing contributions to the Newsletter. The usual space occupied by the Identification Column is not being used in this issue and I will not print the form again unless I receive some items for identification. It is amazing to me that with all of the unusual things that turn up, no one has submitted to me any items for identification within recent months. If you have any interesting objects which you would like to get the membership to identify, please contact me.

The other remaining regular publication, namely, the Patent Column, is included in the article by James Edmonson for this issue. We are greatly indebted to Dr. James M. Edmonson, Curator of the Dittrick Museum, who has supplied us with an extremely informative article on Asepsis and the Transformation of Surgical Instruments. This very scholarly report is included as the highlight of this issue of the Newsletter. Thanks again to Dr. Edmonson for his very kind help and I am sure we all look forward to seeing him at the meeting of the Medical Collectors Association in Cleveland in July of 1989.
The last item of the Newsletter is, of course, another contribution from Dr. Pengelley. This time Dr. Pengelley tells us of the medical museums in yet another country.

Once again I would like to thank all of you who have contributed to the Newsletter in some fashion and urge the remaining members of the Association to contribute whatever information, articles or related matter that they think may be of some interest.

Sincerely,
M. Donald Blaufox, M.D.,PhD.
In years past, the dispensing of medicine was no easy matter for the corner druggist. It required a detailed knowledge of various herbs and botanicals that had to be compounded and individually prepared for customers. Today's pharmacist, although much more knowledgeable about the chemistry of drugs, has a significantly easier time in filling prescriptions, as compounding and preparation are no longer needed.

Pictured above is a hand-operated metal suppository machine that was used to compress the suppository from a solid cocoa butter mass into specialized brass molds. The suppositories from this machine, patented in 1894, were for vaginal and nasal use.

Also pictured is a boxwood pill cutter with a fine antique patina from the late 1800s. The smooth wooden box, shown open, was used to coat hand-made pills. The pills were first covered with a glue-like syrup material and then placed in the pill cutter. Gold or silver leaf was added, the top was screwed on, and the cutter was rotated until the pill was covered with the material, which acted to protect it and was not harmful when swallowed. Pill cutters such as this one were used in drug stores during the 18th and 19th centuries.
We have just received a colorful letter-head enclosed of the Drs. Burleson and Burleson, Rectal Clinic, Grand Rapids, Michigan Est. 1899. They claim to be the largest institution in the world for the non-surgical treatment of diseases of the rectum ("by the dissolvent method").

We will of course check further the A.M.A. and Proctology Societies but perhaps some of your readers have some information in this regard.

Sincerely,

Henry J. Gloetzner, M.D.
Chairman
Historical Committee
The letterhead of the I. S. Johnson Company of Boston, Massachusetts, is a good example of the creative use of lithography to produce an attractive design. It includes not only the portrait of the founder, I. M. Johnson, but also the names of three of the company's leading products, two addresses, and the date of its establishment. Since most correspondence during the 1880s was handwritten, the paper below the letterhead itself was lined. The text beneath the letterhead comprises a message that is still most timely although today's language might be more succinct:

As the fall campaign on Sheraton's powder has opened in earnest, we hand you enclosed circular and order blank as a reminder that we shall be pleased to receive an order from you at any time when you may feel disposed to so favor us.

(Size of letterhead, 3 x 6 inches. Original in W. H. Helfand Collection.)
Dr. Donald Blaufaxx
Albert Einstein College of Medicine
1300 Morris Park Ave.
Bronx, New York 10461

Dear Dr. Blaufaxx:

I am writing in connection with our recent telephone conversation regarding our search for an extant Edison Inductorium. I enclose a copy of some original advertising material (feel free to crop the page) and I will describe here what we are doing. We hope the Medical Collectors Association Newsletter readers can help us.

The Thomas A. Edison Papers is a major historical editing project preparing both book and microfilm selective editions of the documents left from the life and work of Edison. We seek to make available for scholars studying creativity, technical and scientific history, management of innovation, and so forth, extensive and informative selections of materials from Edison's career. We regard actual devices as well as drawings or words on paper as documents; objects can provide crucial details not just about themselves but about processes of manufacture or design, details not readily available from written sources. We are currently preparing the second volume of our letterpress edition (to be published by Johns Hopkins University Press) which will deal with the period from the middle of 1873 to the middle of 1876. During these years Edison made and marketed an electro-medical apparatus he called the "Inductorium." We wish to know if any of these survive anywhere, public or private, and if we could examine it or them. We also would be very interested in any other surviving ads, flyers, instructions, or other material related to the devices. Any publication would only be done with the owners permission and with full acknowledgement. The Thomas A. Edison Papers, Rutgers University, New Brunswick, NJ 08903, telephone: (201) 932 - 8511.

Please use as much of the above as you can. Thank you for your consideration.

Respectfully,

Keith A. Nier
Assistant Editor
DO YOU HAVE ONE OF THESE? DO YOU KNOW WHERE TO FIND ONE?
PLEASE CALL OR WRITE: THE THOMAS A. EDISON PAPERS, RUTGERS UNIVERSITY, NEW BRUNSWICK, NJ 08903 PHONE: (201) 932-8511

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Asepsis and the Transformation of Surgical Instruments, 1885-1900.

James M. Edmonson, Ph.D. Curator, Dittrick Museum

Medical museums and private collections contain ample evidence of the adaptation to asepsis. This evidence comes in physical as well as written or printed form and this includes sterilizers, white enameled furniture, and the entire range of surgical instruments. In a general sense, we know when this change occurred; sometime between 1880 and 1900 instrument makers began to offer new models of surgical instruments in their product catalogues. These new models differed from pre-aseptic instruments in at least two important respects. First, all-metal construction supplanted traditional materials that could not withstand either the corrosive action of disinfectants or the high temperatures of steam sterilization or autoclaving. Second, instruments were designed for easy disassembly, in order to make the task of cleaning them simpler and more certain. While we can thus identify the most significant or obvious changes of instruments in response to asepsis, we know surprisingly little about how, when, or by whom these changes were accomplished. Answering these questions in a brief and tentative fashion is the purpose of this paper; I hasten to add that much research remains to be done before all the story can be sorted out.

One of the first notable public displays of aseptic instruments took place at the Universal Exposition of 1889 in Paris, France. Dr. Paul Berger, author of the official report on the medical and surgical exhibits, commented that,

...it is impossible not to be struck by the complete transformation that surgical instrument making has undergone in the past few years. This renovation of our instrumentation was the consequence of the revolution that antisepsis introduced in surgical practice; it has been necessary to create entirely new equipment that meets and exceeds the conditions that surgeons consider essential.

Berger went on to describe in detail the individual exhibitors' contributions to the renovation of surgical instruments and equipment. Of special note, according to Berger, were the various designs for scissor-like joints or articulations that French instrument makers had devised.

Berger was not alone in emphasizing this last point, instrument joints. In a series of articles published in Le Progres Medical in 1889, Dr. Marcel Baudouin described in considerable detail the changes introduced by French instrument makers, particularly those in Paris. In that city a small number of firms -- Collin, Mathieu, Mariaud, Aubry, and Luer -- dominated the national output of surgical instruments. These instrument makers [all of whom had worked for or with the industry's leader, Joseph Frederic Benoit Charriere (1803-76)] constituted an active community where the level of inventiveness and innovation was quite high. In 1889 and for some time before that, according to Baudouin, all of these firms seemed to be pre-occupied with the re-design of instrument joints. [See figs. 1-3]
This pre-occupation was also noted by Guillaume Emile Mergier in his analytical monograph on the exposition, Technique instrumentale concernant les sciences medicales (1891). Mergier identified three technical developments as central to the advance of surgery in the nineteenth century. He included 1) the discovery of anesthetic agents and the subsequent development of anesthetic apparatus, 2) the introduction of antisepsis and its associated paraphernalia (sprayers for disinfectants, sterilizers, etc.), and 3) the invention of more effective means for hemostasis, particularly artery forceps. In his discussion of this last area of technical change, artery forceps, Mergier (like both Berger and Baudouin) reported at length upon instrument makers' efforts to devise a new form of instrument joint that could be readily disassembled for cleaning. Why, one might ask, did this aspect of instrument design generate such interest? [See fig. 4]

Instrument makers devoted their efforts to this detail because they foresaw an unprecedented commercial opportunity. In light of the fact that surgical instruments would have to be altered in compliance with the dictates of asepsis, all instrument makers stood to profit, as physicians and surgeons discarded their existing (and henceforth unacceptable) instruments in favor of the new. If, however, any one instrument maker devised and patented an indisputably superior form of aseptic instrument joint, that individual could attain an immense advantage over competitors. In addition to manufacturing and selling instruments incorporating such an improvement, the innovator could, through licensing and royalties, derive revenues from all other makers who would be compelled by customer demand to adopt a particular form of joint or articulation. This position of dominance would be compounded by the fact that this single design change could be applied across the spectrum of instruments featuring scissor-like action, including forceps, scissors, and the like. Given these prospects, the race was on to devise and patent the joint or articulation that would win the day.

Physicians and surgeons appear to have played little or no part in this scramble. Before the present century the patenting of surgical devices by physicians was in fact a fairly unusual occurrence. Since patenting was not considered to be professionally "proper", especially in the elite circles of the American medical profession, medical men generally shied away from this practice. The first Code of Ethics of the American Medical Association, adopted in 1847, specifically forbade it, stating that, "...equally derogatory to professional character is it for a physician to hold a patent for any surgical instrument or medicine." A review of medical and surgical device patents for the period 1880 to 1895 reveals that not all physicians obeyed this ruling, but for the most part, the leading surgeons of the day did. So, it was left to instrument makers to devise and patent much of the new instrumentation required for aseptic surgery.

In France, the first instrument maker to file a patent for a new aseptic joint was Adolphe Collin, successor to Joseph Charriere. Collin presented his initial model, patented on October 30, 1886, as an improvement upon the widely used mortise and tenon joint introduced by Charriere in the early 1830s. He observed that the Charriere joint required considerable precision fitting, both in manufacture and during assembly and disassembly before and after use. Moreover, frequent usage often resulted in wear and abrasion, so that the joint soon became loose and wobbly. [See fig. 5]

To remedy these design faults, Collin substituted a straight pin for the mortise and tenon. To hold the instrument halves together, he added an overlapping finger or branch. One simply joined the instruments at right angles to each other then rotated them, as one would when closing a pair of scissors. As the handles came together, the finger placed below the pivot pin held the instrument halves securely in place. This finger proved to be the "weak link" of the Collin design, however; its slender form was not strong enough to guarantee both a tight fit and smooth action.
Not discouraged by this apparent failure, Collin patented a second joint on September 13, 1937. This model, which also proved defective in use, consisted of a modified mortise and tenon joint. Collin quickly moved on to a third design, which he patented on December 6, 1937. In this version, Collin returned to his original straight pin pivot and overlapping finger. This time, however, Collin placed the finger above the joint axis and reinforced it, so that it more closely resembles a yoke or cradle, not a mere finger. In this, his final design, Collin achieved both a snug, secure fit of the two instrument halves, and a smooth opening and closing motion when grasping an artery or tissue. Success was at hand for Collin, or so it seemed.

Collin was not the only instrument maker in Paris to patent new aseptic instrument joints. At least two competitors, Mariaud and Mathieu, patented their own designs in 1887 and 1888. Mariaud, like Collin, devised several different joint forms; in all, he patented five variants from June 1887 to July 1888 before settling upon his final model. Similarly, Mathieu was not satisfied with his original aseptic joint of 1888 and filed additional patent specifications in 1890, modifying the design one last time. [See figs. 6 and 7]

As one can see, French patents of the late 1880s, especially in 1887 and 1888, clearly record a frenetic race to come up with the aseptic instrument joint that would become the international standard throughout the surgical instrument industry. If the evidence found in museum collections is to be trusted, it is apparent that none of the French patented designs became the accepted standard on this side of the Atlantic or much of anywhere outside of France's own Paris-centered surgical instrument trade, where Collin's joint prevailed.

The design that did achieve the distinction of being an international standard is to be found among French patent records somewhat later, in 1891. On July 2, 1891, a patent, or brevet, was granted to "M. Henger, for pincers, scissors and analogous instruments composed of two separate parts." [See fig. 8] Henger's joint, subsequently known as the "Aesculap" joint, was also patented in Ireland on March 7, 1891, in England on May 29, 1891, and in the United States on May 3, 1892. By 1893 at least one leader of the American surgical instrument trade, Charles Truax, would feature the Henger joint in his trade catalogue [See fig. 9] and in the ensuing decade it emerged as the preferred and dominant form of instrument joint. Why, one might ask, did Henger's "Aesculap" joint win out over the many other designs proposed by instrument makers?

The Henger aseptic joint is a simple, elegant solution to the challenge of designing a joint for easy disassembly. It is not markedly more ingenious in form or effective in use than the design of Collin or even that of Mariaud, however. It appears that the principal advantage offered was that of being more easily produced by machine, by drop-forging in particular. This proved to be a decisive factor, since surgical instrument making was shifting rapidly from workshop to factory. Mechanical, machine-based methods of production became central to the success of a few large instrument makers beginning in the 1880s, so that by the turn of the century a handful of firms dominated the market for surgical instruments on both sides of the Atlantic. By 1900 the undisputed leader among instrument making firms was the Jetter and Scheerer enterprise, headed by Wilhelm Scheerer, in Tutlingen Wurtemberg. Scheerer's success can be explained in great measure by the mechanization of production at his factory, today known as the Aesculap Werke AG. In the 1890s, and perhaps earlier, Scheerer introduced steam activated drop forging to replace hand forging in the
The manufacture of knives, scissors, and forceps. This change increased output dramatically. By hand a skilled workman could produce about 60 to 75 forgings in a day; by semi-automatic drop forge an adept person could turn out 1200 to 1500 forgings in the same period. 15

In addition to increasing productivity in his factory, Scheerer extended his marketing network abroad, to the United States in particular. By 1898 he had formed the Kny-Scheerer Corporation in association with New York instrument maker Richard Kny. This company served as the principal distributor of Scheerer's instruments, but was also supplemented by a chain of retailers that sold Kny-Scheerer instruments under their own names. 16 Later, after the turn of the century, the Kny-Scheerer Corporation also opened a factory in Newark, New Jersey, to produce instruments on this side of the Atlantic.

The final guarantee of Scheerer's business fortunes was control of the patent rights for Henger's aseptic instrument joint. Evidence of the importance of control over the Henger patent is to be found in the instruments themselves. Beginning in 1909, tariff regulations stipulated that all imported products had to be marked with the country of origin. Surgical instrument retailers in America obtained exemption from this requirement, arguing that the recesses of stamped markings could harbor septic matter and that "would make proper sterilization impossible." 17 Scheerer ignored this ruling and persisted in stamping the "Aesculap" trademark on his instruments. Furthermore, he took special care to add the markings "Patented" and "Pat.5.3.92" (the American patent date) on instruments incorporating the Henger joint. These markings usually appeared on the inner face of the joint, where septic matter was most likely to accumulate. In doing this, Scheerer permitted his commercial interests to take precedent over aseptic precaution. This tangible evidence demonstrates, I believe, the perceived importance of the Henger joint among instrument makers.

In summary, this brief review of the transformation of surgical instruments in response to asepsis reveals that instrument makers played a central role. They approached the problem by devising what I would call "transcendent" solutions; that is to say, they sought out solutions or improvements that could be applied across a broad range of the instrumentation that they produced. With this approach to the problem in mind, they quickly focused upon the redesign of instrument joints. Their technical solutions, like the Henger joint, embodied economic decisions; in this case, an imperative design criterion was to make a joint that could be produced quickly and cheaply by machine. These economic concerns even overrode medical ones, as illustrated by the marking of instruments even though aseptic precaution would have condemned this practice. Finally, this inquiry suggests that surgical instrument makers in America played a comparatively minor part in these important changes; for the most part, they simply followed a European example. Why they "failed", if that is the proper characterization, is an important question that can be resolved only through ongoing research and documentation.


2. Marcel Baudouin, "La Medecine et les Sciences qui s'y rattachent a l'Exposition Universelle de 1889," Le Progres Medical 9 (1889): 463-65; 504-05; and 10 (1889): 55-59; 77-79; 101-05; 225-26; 259-41; 255-58; 288-91; 301-03; 328-30; 349-53; 365-70.


6. "Brevet no. 179361, en date du 30 octobre 1836, a M. Collin, pour un systeme d'articulation applicable aux pinces, aux ciseaux et en general a tous les instruments a branches articulées," in Ministere du commerce et de l'industrie, Description des machines et procedes pour lesquels des brevets d'invention ont ete pris sous le regime de la loi du 5 juillet 1844 publiee par les ordres de M. le Ministre du commerce et de l'industrie (Paris: Imprimerie nationale, 1889), new series, vol. 59 (1886), pt. 2, pp. 18-19 and pl. VI. Hereafter referred to as Description with appropriate volume, year of patent (not publication date), and pages.

7. For description and illustrations see Baudouin, "La Medecine...," Le Progres Medical 9 (1889): 465 and 10 (1889): 55, and Mergier, Technique instrumentale (1891), 32-35. Collin was apparently so pleased (or obsessed) with his joint design that he tried to utilize it whenever possible, even when it was neither called for nor especially helpful. One example of Collin's inability to restrain himself is in the application of the joint to an intubation tube introducer. See "Brevet no. 243456, en date du 7 decembre 1891, a M. Collin, pour un systeme d'instrument pour poser les tubes servant a l'intubation du larynx," Description, vol. 91, pt. 2 (1894), p. 18 and pl. III.


9. "Brevet no. 193072, en date du 19 septembre 1888, a M. Mathieu, pour un systeme d'articulation a chape et coulisse, applicable aux pinces, cisailles et ciseaux de chirurgie et de coutellerie," Description, vol. 67, pt. 2 (1888), pp. 24-26 and pl. VII. See also Baudouin, "La Medecine...," Le Progres Medical 10 (1889): 102 and 104, and Mergier, Technique instrumentale (1891), pp. 33-34 (description only).

10. Although the Collin joint was not universally employed in this country, there is evidence of its adoption in America before 1850. This is found in Charles N. Dixon, "The preparation of surgical dressings by sterilization with heat." New York Medical Journal 47 (1888): 147-51. Dixon noted:
I take this opportunity of presenting Collin's haemostatic clamp forceps, which is the simplest and most easily cleaned of any forceps with which I am acquainted, and I have adopted it almost exclusively in my practice. Messrs. Tiemann & Co. have adapted this lock to forceps and scissors of different sizes.


14. Marcel Baudouin, in his opening remarks on the 1889 Universal Exposition displays of surgical instruments [published in Le Progres Medical 9 (1889)], noted this shift from small workshops, or ateliers, in Paris to factories in provincial centers of industry:

   We will take this occasion to point out a new tendency that is increasingly pronounced among surgical instrument makers and that does not seem to us, on the whole, an improvement. In this industry as in many others, man is steadily displaced by machine [la machine a vapeur]; the artiste, the skilled workman, no longer exists in this quintessentially French branch of cutlery. Most of our makers have their instruments made in provincial centers by ordinary workmen, in vast industrial establishments that mass produce, quickly and cheaply, but ordinarily their output is limited to things [table cutlery] other than amputation knives. Of course, labor is costly in Paris, and to make a greater profit it is better to utilize this provincial work force. Of course, one thus gets instruments of a notably lower price. But the problem is that the products of our French firms are not very much better, and they once were, than those made abroad; everything is leveling out, democratizing; even in the field of surgical instruments. (p. 464)


16. Examples include Manhattan Surgical Instruments (New York), Roemer Drug Co. (Milwaukee), and Schuemann-Jones Co. (Cleveland).

les annales de la Société pathologique de Londres. M. Berger rapporte, comme troisième cas, le fait suivant qui montre qu'il y a bien une loi de pathologie générale s'appliquant à tous ces cas d'oblitération des canaux excréteurs des glandes, quelles que soient:

Johann de 30 ans, présentant depuis 9 ans un gonorrhée dans la prostatique splénique qui a augmenté de point en point, mais qui n'est plus dure depuis quelque temps; depuis un mois, épanchements douleurs dans cette tumeur et après le repas. Aucun traitement. Depuis deux ans, il a éprouvée une limitation qui y avait paru à rompre les zonas de sable dans sa bouche. Dans ces derniers temps, poussées inflammatoires. Tumeur prostatique indépendante de la peau, latérale, profonde, grosse comme une petite noisette, assez mobile, faisant dans la bouche un certain relief le long du canal de Warthon. Au calibres et de ce canal, on tombe sur un corps étranger qui donne la sensation d'un calcul d'environ 3 cm de long. Opération: incision courte; on tombe sur une tumeur dure très adherente aux tissus voisins. L'aspect doux de la tumeur encourage l'opérateur à faire l'extrémité, qui est faite sans difficulté. Calculet atteint de 3 cm de long, en forme de crâne, à base située dans le centre de la glande. Réunion complète en 8 jours. L'examen histologique de cette intéressante glande a été fait par M. Pilliet, préparateur à la Faculté.

De cet examen il résulte que dans de tels cas on trouve trois altérations principales du parenchyme glandulaire: 1° dilatation de tous les conduits excréteurs, si bien qu'à la coupe ils ont l'aspect d'espaces lacunaires; leur épithélium est modifié d'ailleurs; 2° disparition de la substance sécrétrice, c'est-à-dire des éléments cellulaires des lobules glandulaires, éléments qui ne sont plus reconnaissables, lobules ou l'on trouve à peine des traces des acini primitifs; 3° altération du tissu conjonctif péri-acinées, constituée au début d'un réseau de canaux entre le tissu de voûte excréteurs par les calculets qui s'y développent. La dilatation seule est la conséquence de l'obstruction; les deux autres essences de lésions des dégénérescence glandulaire et séreuse sont dues à l'inféc­tion microbienne concomitante, puisqu'on ne les observe pas dans les cas de l'aspect sérique des conduits excréteurs glandulaires. M. Pilliet a pu retrouver sur les coupes de la glande qui a été l'objet de l'opéra­tion, des éléments cellulaires entrés dans le réseau, des le-microbes de l'inféc­tion, peut-être cela s'explique-t-il par l'occlusion rapide d'un des microscopes qui sont en contact avec la salive.

De telles observations sont rares; d'ailleurs pour avoir des glandes sous-maxillaires ainsi malades il faut des cas invi­térès. On ne connaît pas de cas analogue pour la parotidie. Comme les troubles observés se rapportent plutôt à l'inflammation de la glande qu'à la présence du calcul, il importe de détruire le malade de l'organisme, cette l'inféc­tion microbienne de l'ablation totale est donc justifiée dans de tels cas. M. DE PRAES croit que lorsqu'il y a simple hypertrophie, simple enrochement de la glande, il est inutile d'en faire l'ablation. Cette hypertrophie peut disparaître seule.

M. BERGER est, de son avis, mais il ne faut pas confondre cet enrochement temporaire avec l'induration chronique dont il parle. Il lui paraît insuffisant, quand la glande est ainsi transformée en tissu séreux très dense, de se borner à l'extraction du calcul, la glande étant complètement éteinte. ELECTION DE 10 MEMBRES CORRESPONDANTS HONORAIRES. — AU 1er tour de scrutin (50 voix), sont nommés: MM. MINTER (50 voix), PIECHAUD (50 voix), LEFREVRE (50 voix), BOYER (50 voix), ROYER (50 voix), H. MURRAY (50 voix) et B. CAJAL (50 voix).

M. BOURDON.

CHRONIQUE SCIENTIFIQUE DE L'EXPOSITION.

La médecine et les sciences qui se rattachent à l'Exposition internationale de Paris en 1889 (Suite 3).

I. — Les Instruments de chirurgie.

Il est temps d'entre dans les détails, et pourtant nous ne découvrirons. — MM. les fabricants nous parleront d'ailleurs quant à leur consistance, — que les instruments modernes ou nouvellement construits par les princes plastiques, par contre nous inquiéterons, avec une certaine prédilection, dans l'enumeration ci-dessous, sur ceux qui marchent d'une manière frappante le génie inventif de tel ou tel industriel. Nous voulons montrer de la sorte à quel degré de perfectionnement en est arrivé chez nous l'art de la fabrication des instruments de chirurgie, et par ce fait essayer de faire connaître quels titres à notre point de vue chaque fabricant a acquis par son labeur constant et son ingéniosité personnelle. Le visiteur de la classe XIV pourra ainsi se rendre facilement compte de l'état actuel de l'industrie à laquelle nous nous efforçons de l'intéresser.

A) — Commenceons par la maison Charrière-Collin, d'où sont sortis, on le sait, tous les contremaîtres qui dirigent aujourd'hui avec un certain éclat les maisons rivales. Nous avons déjà décrit la nouvelle articulation à tenon que M. Collin emploie désormais pour la plupart des instruments à deux branches articulées, Bornons-nous à ajouter que les figures ci-jointes montrent mieux que notre description ardue la façon dont cette articulation est constituée. L'une d'elles (Fig. 1), se rapporte à une pince à force-presse ordinaire.

B) — L'autre à une paire de ciseaux (Fig. 2). L'articulation est en face et profil, montée et démontée. Que M. Collin, enfin, sonse: le crochet des pince à force-presse est trop court, non seulement d'autre part, le tronc que porte une branche est si petit que sa déformation est difficile, l'opérateur ne pas faire une articulation plus solide. Les pince doivent être soudes sans inconvenients avoir des manches plus longs, de même qu'étant pour des mains plus grossières.

On trouvera, dans l'exposition de M. Collin, quelques instruments qui méritent plus particulièrement d'attirer l'attention. Nous les décrirons, sans nous attacher à préciser la situation qu'il occupent dans les vitrines, car leur place varie...
b) Nous avons quelques instruments de chirurgie générale à mentionner dans les deux vitrines de M. Mathieu : d'abord une modification dans la construction des cisailles qui a été très remarquée par le jury. Cet instrument porte le nom de cisaille à manche unique de Mathieu. On en construit de droites, de coudées, de courbes, de longues et de courtes (voir Fig. 30). Il y en a même une colossale, qui a bien prés

montre qu'il a, comme M. Collin, adopté pour l'une des branches de la jointure américaine et un orifice destiné à recevoir le principal tenon de l'autre branche. Celle-ci, en effet, présente deux tenons : l'un principal, invisible sur la figure, analogue au nouveau tenon de Collin ; l'autre accessoire, plus petit, mais ovale et visible. Pour ce tenon supplémentaire, il a fallu pourvoir d'un orifice cette jointure rendue plus large et y ménager une fente d'entrée pour l'introduction du deuxième tenon. Pour articuler ces deux branches et introduire le deuxième tenon dans le trou de la jointure, il a fallu transformer l'orifice du tenon principal en une vraie fente allongée, comme on le voit sur la figure. Branches disposées horizontalement. Cette articulation, qui a une certaine analogie avec celle des forets anglais, est plus compliquée et notablement plus difficile à nettoyer que celle adoptée par les autres fabricants.

Fig. 2. Mathieu joint, as shown in Le Progrès Medical 10 (1889): 102.

Fig. 38. — Nouvelle articulation de M. Mathieu.

Fig. 39. — Cisaille à manche unique de Mathieu. Plates 1 and 2 of the catalogue.
Fig. 3. Mariaud joint, as shown in Le Progrès Médical 10 (1889): 255.

CHRONIQUE SCIENTIFIQUE DE L'EXPOSITION.

La Médecine et les Sciences qui s'y rattachent à exposition internationale de Paris en 1889.

I. - INSTRUMENTS DE CHIRURGIE (Suite).

Maison Mariaud.

On peut mettre encore la Maison Mariaud en première place, à la suite de celles qui tiennent la tête du peloton des fabricants d'instruments de chirurgie. Elle a un grand mérite, constaté et incontesté, celui d'avoir fourni, la première, peut le dire sans exagération, le matériel nécessaire à la jeune génération chirurgicale ou plutôt à ceux de nous qui ont défendu avec conviction la valeur de la laparomie moderne. Il y a une dizaine d'années environ, alors la chirurgie abdominale n'était encore en France qu'à l'état embryonnaire. M. Mariaud par sa coopération a dû fournir aux défenseurs de doctrines nouvelles les instruments indispensables pour servir à bien leurs hardies tentatives. C'est là le secrétar aucun d'entre nous, habitués des hôpitaux parisiens, nous avons tenu à mettre en relief les efforts faits par une maison, qui s'est pour ainsi dire complètement spécialisée dans ce sens. Nous croyons faire acte de justice en le précisant, désirant rendre à chacun de ces qui l'appellent en propre tenant plus que la plupart de nos confrères n'y ont point pensé et qu'aujourd'hui, grâce aux perfectionnements tout récents de la méthode antiseptique, ses concurrents, les directeurs des grandes maisons de fabrication, sont parvenus à fournir un matériel asceptique irréprochable, qui éclipse d'une certaine mesure l'ancienne renommée de l'outilage M. Mariaud. Quoi qu'il en soit, son matériel antiseptique n'a d'analogue que dans l'instrument de MM. Mathieu et Collin.

1° Modifications d'ordre général.

Articulation nouvelle de M. Mariaud et ses manches métalliques.

Articulation nouvelle de M. Mariaud. — Comme Aubry, M. Mariaud a cherché à transformer l'ancienne articulation mobile des instruments à deux branches, sans en perdre complètement. La nouvelle articulation de M. Mariaud doit porter le nom d'articulation à deux et en huit. En effet, l'ancien tenon a été visé dans la branche à deux rivets, il est toujours formé d'une tête circulaire. Aujourd'hui c'est un tour ne pas le fausser, et au-dessous d'un doux et lui-même au fur et mesure de l'axe, on ne peut s'enfoncer dans l'outil de la branche que dans une position, celle qui correspond à une cannule, oblique de dehors en dedans et de haut en bas de cette branche. Cette orifice constitué, avec cette étiquette, un point spécial dans cette articulation : il est posé en réalité de deux trous ; il est double par conséquent.

Les deux trous ont un point de contact. De plus, un doux et grande boucle du huit de chiffre) est plus grand que le su, c'est l'inferieur, c'est-à-dire qui est le plus rapproché du manche. La tête du tenon qui occupe le cadre de mémoire ne peut s'enfoncer dans le petit trou de l'orifice en dehors de chiffre qu'en passant d'abord par la grande boucle, celle qu'elle est placée dans la petite boucle, dont les bords frais pour prévenir la tête du tenon de sortir, les deux axes sont solidement articulées. Cette articulation, qui est supérieure à celle de M. Aubry et M. Mariaud prend non plus à base carrée, mais aubry, est assez facile à voir. Quelques chirurgiens le préfèrent à celle de M. Collin, il paraît plus simple à première vue et le résultat d'une transformation moins radicale de l'ancienne articulation mobile. Voir Fig. 66.

peuvent amplement lutter contre les produits que certains de nos fabricants exposent et qui sont d'origine étrangère.

2° Instruments métalliques. — Il convient de particulier à ajouter pour les manches métalliques de cette maison. Les lames sont rivées sur les manches; tous ces manches sont d'origine absolument française et ont gardé l'allure des anciens manches de bois (Voir Fig. 65). Ils sont tous d'un fin remarquable et
Fig. 4. Collin joint, as shown in *Technique instrumentale* (1891), p.32.

...de très minimes modifications et les baptisèrent de leur nom; les fabricants oublièrent qu'ils n'en étaient pas les inventeurs et suppri"merent le nom de celui qui les avait découvertes. D'autres essayèrent, par une courtoise exagérée, d'en attribuer un mérite partiel à l'étranger. De là, les dénominations nombreuses de pinces de Richetot, de Spencer Wells, de Dupont de Lausanne, de Collin, de Mathieu, etc., etc., alors que les Américains, plus justes, les désignent sous le nom générique de pinces de Péan.

Nous n'avions pas la prétention d'avoir fait d'une façon complète l'historique de la question. Ceux de nos lecteurs qui voudront la connaître à fond consulteront les travaux de MM. Deny et Exchaquet [1], de Péan (2), et de Verneuil [3].

Les pinces hémostatiques sont, de nos jours, ce qu'elles étaient en 1867. Comme l'avait indiqué M. Péan, elles doivent avoir pour leurs branches et pour leurs mors la longueur, la force, la forme nécessaire pour chaque région, chaque organe. Le mode de fermeture est le même; le mode d'articulation de leurs branches n'a subi que des modifications de détail. Ce qui a contribué le

plus à les vulgariser, c'est la facilité avec laquelle on peut les ouvrir, et la solidité que présente leur mode de fermeture. Celle-ci se fait par pression graduée, au moyen d'une crémallière à crans. Avant Péan, on ne trouvait dans l'arsenal chirurgical, en fait de pinces, que la pince à verrou et la pince que Charrière avait fait construire pour passer ses épingles à travers les tissus. Elle se formait au moyen d'un tenon qui s'engageait dans un trou de la branche opposée. L'une et l'autre était absolument impropre à faire l'hémostase même temporaire.

M. Mariaud, dont la belle exposition mérite tous les éloges, a imaginé un

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Fig. 8. Henger joint, brevet no. 214597, in Description des machines et procédés vol.79 (1891).
Fig. 9. Illustrations of aseptic joints in Charles Truax catalogues in 1890 and 1893, showing the transition to the Henger joint in the later year.

AMPUTATING AND GENERAL OPERATING INSTRUMENTS.

TRUAX'S ASEPTIC "OPEN BOX JOINT."

The combination of opposing joint surfaces, as illustrated above, with the ordinary form of Joomla, permits the use with ease of aseptic joints in all forms of bone and flesh. These joints have been tried and proved superior to all others. The Henger joint, as shown above, is the superior kind, as it has the joint open to the ordinary nature, permitting a smooth and easy way of use and manipulation. In addition, it is necessary for a perfectly-molded aseptic instrument, and is now the standard in all aseptic operations. Constructed with "Truax 3 & 4 joint."

PATENT JOINT FOR FORCEPS AND SCISSORS.

These are patented and have the advantage of being thoroughly cleansed in the ordinary form of Joomla. These joints have been tried and proved superior to all others. The Truax joint is not only aseptic but also aseptic, being in reality a standard instrument, and may be used on any instrument as well as any other instrument. It combines all the necessary requirements in a perfect working aseptic instrument, constructed with great joint points.
To all whom it may concern:

I, Paul Henger, of Stuttgart, Wurtemberg, Germany, having invented a new and useful improvement in separable jaw-tools, for which I have obtained patents in Germany March 7, 1891, No. 50,030, and in England May 20, 1891, No. 9,117, of which the following is a specification.

My present invention is designed to adapt jaw-tools—such as forceps, shears, and the like instruments, and especially such as are used in surgical operations—to be taken apart and reunited in the simplest manner for the purpose of permitting a thorough cleaning and sharpening of the parts detached from each other.

In the drawings, Figures 1 to 6, a simple pair of forceps is represented, which serves to illustrate the essence of my invention.

In the drawings, Fig. 1 represents an inner elevation of one of the legs of the forceps; Fig. 2, a plan of the said forceps in locked position, showing the separable position in dotted lines; Figs. 3 and 5, another and inner plan, respectively, of one of the jaws; Fig. 4, a side elevation of the forceps; Fig. 6, a transverse section on line D D, Fig. 3.

The two legs A and B of the forceps are not held together in the usual way by a screw-bolt; but one of the legs A is provided with a fixed pin a, whose free end is headed in the manner of a rivet and bolt, as shown. The other leg B is provided with an open slot or notch b, whereby the said leg B may be slipped under the pin a of the leg A.

In order that the two legs of the forceps may be separated only in a determined position, (in dotted lines in Fig. 2) the leg B, having the slot or notch b, is provided on its inner side with a transverse mortise b', having the width of the leg A, while the slot b is provided with a countersunk portion, preferably in the shape of a conical enlargement on the outer side, as shown. By this arrangement, after the two legs A and B have been united in the position indicated in dotted lines in Fig. 2, the rivet-head of the pin a is pressed into the upper conical enlargement of the open slot b upon closing the forceps. The falling apart or separation of the legs of the forceps is thereby prevented as long as the position of the legs indicated in dotted lines in Fig. 2 has not been attained.

While I have shown in the drawings and described my invention as applied to surgical forceps, it is manifest that the same may be applied to other jaw-tools for surgical and other purposes, such as shears, tongs, pilers, and the like, and I desire it to be understood that my invention covers all such tools and instruments.

What I claim, and desire to secure by Letters Patent therefor, is—

1. In surgical instruments and similar tools, a leg provided with an open slot, provided with a countersunk portion, in combination with a second leg provided with a pin for engaging said slot, having a bead for engaging the countersunk portion of the slot, substantially as described.

2. In surgical instruments and similar tools, a leg provided with a slot having an outer conical enlargement and also provided with a transverse mortise on its inner surface, in combination with a second leg provided with a headed pin for engaging said slot, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses:

Paul Henger,

Witnesses:

August H. Drantz,
Carl Dussmann.
P. HENGER.
Surgical Instrument.
No. 474,130. Patented May 3, 1892.

Witnesses:
C. A. Cr. Frager
E. J. Herrett

Inventor:
P. Henger
By M. Henger
MEDICAL MUSEUMS OF THE WORLD

PART XII

CANADA

BY

PROFESSOR E. T. PENGEELLEY
CANADA

Visitors to Canada would do well to understand that it is a bilingual country, based on the fact that its origins go back to a struggle for possession between the French and British. That struggle was finally settled in 1759 with a British victory over the French on the Plains of Abraham, near modern Quebec City. However, the British were, considering the times, tolerant rulers, and many French settlers remained in the country and have subsequently played a major role in its history. Modern Canada was established in 1867 by the British North America Act. With it came a constitution, though it is not an imitation of the United States constitution, but rather the British constitution federalized, which includes many unwritten conventions. Today Canada is a modern "western country," with a relatively small population for its vast territorial size. The capital city is Ottawa.

Until very recent times, Canadian science and medicine were far more closely integrated with those of Britain, but with the huge expansion of these fields in the United States from World War II onwards, Canadian science and medicine have inevitably accommodated to this fact. Nevertheless they have their own independent traditions, and are likely to cling to them.

TORONTO

Toronto, Ontario, is the number two city in Canada, and along with Montreal, Quebec, can certainly be considered the home of Canadian medicine. It was here in 1921 that a truly great medical event took place, namely, the demonstration of the antidiabetic properties of insulin, and its subsequent use in therapy. It was the first major therapeutic application of a hormone. In its day it was sensational with its almost miraculous results. It should be made clear that there are several kinds of diabetes, but the one which has been of such importance in human history is diabetes mellitus (from the Latin, and it literally means honey diabetes). It is a chronic form of diabetes, characterized by an excess of sugar in the blood and urine, together with hunger, thirst, gradual loss of weight and other side effects commonly leading to death. It has plagued mankind throughout his recorded history, and it is only since 1821 that it has been brought under control (there is still no cure) by the therapeutic use of insulin. Indeed many millions of diabetics owe their lives, and their ability to live a more or less satisfactory existence, to this discovery. Traditionally the credit for the discovery has always gone to Frederick Banting (1891-1941), and Charles Best (1899-1978), but that is certainly a simplification of the realities, if not an outright distortion, and unfortunately instead of giving full credit to all those responsible, "nationalism" reared its ugly head with the inevitable misrepresentation. The initial work was indeed carried out by Banting and Best, but this was done in the laboratory of Professor John James Macleod, a Scotsman, under his guidance and with the input of his vast experience and knowledge. In addition the biochemist J. B. Collip played a crucial role in purifying the insulin. However, there was one organization that was not intimidated by the "propaganda," and that was the Nobel Committee in Sweden. For when they awarded the Nobel Prize in 1923, they awarded it to Macleod and Banting, albeit under a storm of protest. They knew what they were doing--but in Toronto it is still Banting and Best who are the heroes.
The Charles H. Best Institute
112 College Street
Toronto

Opening hours: Normal business hours. This is a working institute of medical research.

The Old Medical Sciences Building where Banting and Best worked no longer survives. In place of it is a huge medical complex on the west side of Queen's Park. Outside this complex is a large brass plaque which commemorates the event which took place there. However, just across Queen's Park on College Street, is the Charles H. Best Institute. This was opened in 1953 in honor of the great work of Charles Best and Sir Frederick Banting. It is primarily devoted to medical research, but visitors are welcome on the ground floor where there are many portraits etc. of famous doctors, including Best himself. In addition they have some of the original equipment, including Best's colorimeter, which he and Banting used in the summer of 1921. It is fascinating to see how primitive, by modern standards this equipment was, yet they achieved so much. The equipment, documents, photographs, etc. may be seen by application to the business office of the institute. It is well worth the effort involved.

The Thomas Fisher Rare Book Library
120 St. George Street
Toronto

Opening hours: October - April, Monday - Saturday 9.00-17.00. May - September, Monday - Friday 9.00-17.00. Closed on all public holidays. A variety of literature is available. There is no charge for admission.

This is under the direction of the main library of the University of Toronto, but is a separate building (opened 1973) devoted to rare books and special collections. There is also a display area on the second floor, where there are regularly changing exhibitions. There are particularly fine collections in English literature, Italian Renaissance literature and for our particular purposes, incredible collections of science and medicine from the Renaissance to the 20th century. Included amongst these is perhaps the finest Darwinian collection outside the Cambridge University Library in England (see under Cambridge, England). I cannot recommend this superb historical library too strongly.

The William Boyd Library and Medical Museum
The Toronto Academy of Medicine
288 Bloor Street West, Toronto

Opening hours: Monday - Friday 9.30-16.00. A variety of literature is available. There is no charge for admission.

This institution has a small but excellent medical historical library, and a limited but very good medical museum.
The Ontario Science Centre  
770 Don Mills Road (at Eglinton)  
Toronto  

Opening hours: Daily 10.00-18.00. A variety of literature is available. There is a small charge for admission.

This is an enormous science and technology museum. Many years in the building, it was opened in 1964 in celebration of the 100th year of the founding of the Province of Ontario.

The museum's main function is education in a broad field of subjects, and the excellent displays range for aeronautics and astronomy to medicine and natural history. It is not necessary to mention them all here, suffice it to say there are many, and I can hardly overstress the size of the museum, it is enormous. Of particular interest to us is a complete natural size replica of the 1921 laboratory used by Banting and Best in 1921. It is most impressive. Some years before his death I had an interview with Dr. Charles Best and I asked him if indeed it was an accurate copy of the original. "Yes", he replied. "As I recall things it is very accurate, with the one exception that it is much cleaner that the original."

VANCOUVER

The principle city of Canada on the west coast, and fast becoming a major cultural and scientific center.

The Charles Woodward Memorial Room  
Woodward Biomedical Library  
University of British Columbia  
Vancouver, B.C.  

Opening hours: Monday - Friday 9.00-17.00. This is open to the public, but permission to use it must be obtained from the librarian. There is no charge for admission or use.

The Charles Woodward Memorial Room houses one of the finest historical medical and biological libraries in North America. In Canada it is second only to The Osler Library (which regrettably I have not seen) at McGill University in Montreal.

The library is divided into two parts, the working historical biomedical library on the ground floor, and above on the balcony is a superb collection of very rare and valuable biomedical books. On the ground floor, there are also very fine tapestries showing the history of medicine and other beautiful portraits, busts etc. From time to time there are special exhibits on various aspects of biomedical history. This library should not be missed by anyone going to Vancouver.
VICTORIA

This is the capital city of British Columbia located on Vancouver Island and a very pleasant ferry ride from Vancouver!

The British Columbia Provincial Museum
Belleville and Government Streets
Victoria, B.C.

Opening hours: Daily 10.00-17.30. A wealth of literature is available. There is a small charge for admission.

This museum is primarily devoted to science and technology (not medicine), but I mention it here simply because it is large, excellent and very new. They have used modern techniques in all their displays, principally of biology and Indian anthropology. I cannot speak too highly of it. It is one of the best in the world.

CONCLUSION

This concludes my project for Dr. Donald Blaufox, M.D., Ph.D., and the Medical Collectors Association. I hope to get these articles published in book form, and I would be more than grateful for any comments or suggestions from those who have read them. In addition I would be happy to hear from anyone who knows of other places of historical biomedical interest that I may have missed.

Eric T. Pengelley
Professor Emeritus
Department of Zoology
University of California
Davis, CA 95616
Dear Sir or Madam,

I am writing to you as I think you could help me. I have been recently made Member of the Royal Pharmaceutical Academy of Barcelona. My inaugural speech was on the subject of historical sealed medicinal earths (terra sigillata or Lemnia, terra samia, cimolia, silesiana, etc. and bol armenicus). At the moment, I am continuing my research in this subject and I would like to gain some experimental results about the composition of these clays.

At present, I have very few samples to work on and I was wondering if perhaps you would have some of these tablets of clays at your famous Institution. Would it be at all possible to purchase or exchange some of these samples? I would be very interested in the acquisition of any of the above-mentioned clays. Of course, all costs arising from this matter would be paid by me.

I would also cite the origin of the samples in any future publication.

I would be most grateful if you could help me in any way in this matter.

Thanking you in advance for your reply,

Yours faithfully

[Signature]

Prof. Dr. J. BEECH
Catedrático de la Universidad y Académico Numerario de la Real Academia de Farmacia.

Barcelona, 01-03-88