

What I have to say of the history of ovariectomy may be concluded by an expression of opinion that the record of its progress passes from Clay and Baker Brown to Keith, passing over altogether the unfortunate interregnum of the clamp as something deeply to be regretted. Not only by the re-establishment of the intra-peritoneal method, but by the successful teaching of the necessity for the complete cleansing of the peritoneum and the occasional use of the drainage-tube, Keith has earned the lasting gratitude of humanity.

The treatment of ovarian tumors by therapeutics need not be discussed, further than to say that it is limited to the administration of tonics to sustain the functions of the patient, or to correct some errant condition which might diminish the chances of success for the surgical treatment of the case. Sometimes we are the victims of singular coincidences, which seem to militate against the general experience in this matter. Some years ago I was consulted by a woman with an enormous unilocular tumor, whose husband declined all operative measures. Some months afterward she received from the hands of a physician some inert *placebo*, and soon afterward the cyst ruptured and its contents were absorbed. For nearly five years she remained perfectly well and then the tumor reappeared. She was admitted into a large general hospital, was operated upon and died in a few days. The tumor proved to be, as I had anticipated, a parovarian cyst.

For the cure of an ovarian cystoma there is nothing known to have the slightest influence save an operation for its removal, and those patients who unfortunately are led to believe that some drug or other, or some fanciful form of treatment will relieve them from the necessity of an operative ordeal, are only induced to waste time which is valuable, and to run risks which may be avoided. On this subject Mr. Spencer Wells observes: "But I would also say that if the operation be delayed for a time, she should not be subjected to any useless treatment: that it is quite useless to attempt, by iodine, or bromine, or lime, or by gold, or by any other remedy, to attempt to diminish the size of the tumor or to check its growth. All that is quite useless, and might be very injurious to the patient."

Sir James Y. Simpson expressed his experience in equally strong terms when he said, "he had no belief whatever that iodine, or mercury, or muriate of lime, or aqua potassæ, or diuretics, or deobstruents, or aught else, were capable of absorbing and removing the complicated structure and contents of a multilocular cystic tumor of the ovary." Mathews Duncan says, "We know of no one example of the cure, otherwise than

by the operation of Ephraim McDowell, of an ovarian dropsy properly so-called; not one, however many may be found described, or whoever may be the describer. Cures by one or moreappings, cures by medicines, cures by spontaneous rupture, cures by advancing pregnancy, have been, if not mere egregious mistakes, almost certainly cures of parovarian cysts whose history, as already known, quite accords with and explains such erroneous allegations."

Of tapping I have said as much as I think necessary, but here I may repeat what every one knows now, that it never cures a tumor, and that it only brings about complications. It is my firm belief that if ovarian and parovarian tumors were never tapped, but were removed early in their history, we should have only a casual mortality from the operation of ovariectomy. Tapping, therefore, in my practice, has become only a palliation for tumors I could not remove.

Many other plans have been devised for the radical cure of ovarian tumors, but they are now all abandoned in favor of ovariectomy; and such methods of treatment as the injection of iodine or the establishment of fistulous tracks can only be justified under very exceptional circumstances.

Before the reintroduction of the intra-peritoneal method by Dr. Keith, we used to delay the removal of an ovarian tumor as long as the patient could get about comfortably, and this was justified by the fact that with the clamp we got only about seventy-five per cent. of recoveries. But now that we can get ninety-five, and when we might get ninety-nine per cent. of recoveries if there were no delayed and tapped cases, my rule is to remove an ovarian tumor as soon as it is discovered, and this will soon come to be the received practice. The earlier the operation is performed the more certain the patient is to recover, for the less likely are there to be any complications. However advanced a case may be, I never refuse to operate, for I have seen some of the most unpromising cases recover without interruption. Even when there is strong reason to believe that the tumor may be complicated with malignancy, I make an exploratory incision to remove all doubt. In this way I find that my proportion of exploratory incisions is increasing, for whereas formerly I made an exploratory incision where I thought the tumor might be removed and where I proved mistaken, I now make an opening often where I believe the tumor cannot be removed, and here again, to my great delight, I am occasionally in error. An exploratory opening never does any harm, and very often does a great deal of good, even where the tumor cannot be removed, for I have repeatedly known that after this operation there was no reaccumulation

of ascitic fluid, where formerly it was abundant, and we sometimes see an exploratory incision arrest the progress of an irremovable tumor for a considerable time. I have now under my care a patient with a large myxoma of the cæcum whom an exploratory incision completely relieved from distressing symptoms for nearly two years. Sometimes, therefore, I now begin an "exploratory incision" and end it as an "ovariotomy," while formerly I used to start an "ovariotomy" only to end it as an "exploratory incision." There is only one risk to a beginner in this, that he will have to learn when to stop at the mere exploration. To attempt the removal of a tumor and not be able to finish it, is the most fatal of all proceedings, and therefore the list of incomplete operations should always be a short one.

It is almost a matter of routine in the major operations of surgery, that it should be carefully ascertained that the patient is not suffering from organic or serious functional disease of any important organ, and this, for ovariotomy, must never be neglected. Especial care must be taken to examine the condition of the urine, for the state both of kidneys and bladder is a most important factor in the success of the operation.

I should not, however, hesitate to operate in a case where there was even distinct indications of important visceral disease. I have operated on two patients with marked disease of the lungs, and they are both still alive and one has got nearly well. I have operated in an advanced stage of Bright's disease, and the patient recovered, was greatly relieved of her distress, and died in the ordinary course of her kidney disease. Any visceral lesion which can be remedied before the operation should of course be put right, and this is most particularly true of the bladder. If there is any chronic catarrh of that organ it should be cured before the operation, for as the catheter has in many cases to be used for some days, this condition will almost certainly prove serious.

When an operation has been determined upon and every care taken that any defect discovered has been rectified, we come to discuss the stages of the operation, the precautions to be taken before, and the treatment to be followed after it. First of all, there is the position of the patient—where shall she be? Experience answers that the more nearly her surroundings resemble those in a healthy private house the better; and the statistics show that the performance of ovariotomies in a large general hospital is altogether unjustifiable. There is no operation in the whole range of surgery where the patient seems to be so apt to be infected by septic influences, and no precautions against them can be too great. For any surgeon to perform an ovariotomy

while he is engaged in dissection or in the performance of post-mortem examinations, or while he is attending any case from which he may be likely to convey septic infection, should therefore be looked upon as a professional offence of the gravest kind.

Mr. Spencer Wells has always expressed his views very strongly upon this subject, and they are well summed up in his lectures at the College of Surgeons. "Only two days ago," he says, "one of the most distinguished of the rising surgeons of the day told me that he had gone straight from a post-mortem examination to operate for strangulated hernia, quite confident that the spray and washing the hands with carbolized water would make him safe. This undue confidence in antiseptics may lead to danger rather than safety, and so far I see no reason for altering the opinion I expressed at Manchester last year, that 'for my part I would rather operate in a clean, quiet, well-warmed, and well-ventilated building, be it large or small, without any antiseptic precautions, than run the risk of trusting to the neutralizing or destructive power of chlorine or iodine, sulphur or tar, borax or the permanganates, salicylic or any other acid, in a place tainted by the presence of sewer-gas, or the seeds of some infectious or contagious disease.'"

As we have now had abundant opportunities of showing that the so-called "antiseptic system," even when carried out to its full, gives no such absolute immunity from septic poison as is claimed for it, this kind of teaching requires to be placed in prominence, and therefore I add my own opinion, in a quotation from a paper recently read before the Royal Medical and Chirurgical Society:

"Some of the warmest supporters of the antiseptic system uphold it, on the ground that under its protecting influence operations can now be undertaken successfully which formerly were impossible, such as laying open joints, etc. But I desire to point out that this is an argument which cuts both ways, and which seems to me to form one of the great dangers of antiseptic surgery. The immense favor with which the antiseptic system has been so widely received, is most undoubtedly due to the fulness of its promise as a royal road to surgical success, as a something which puts the skilled and the competent upon a level with the inexperienced and incompetent; and I know that there have been abundant instances of bitter lessons already, that even an antiseptic spray will not condone the want of manipulative dexterity or the absence of readiness in emergency.

"There is, further, an inevitable result in the full acceptance of this germ-theory adaptation, that the other factors—the con-

dition of the patient and his surroundings—will be relegated to unimportant positions, and we shall have a great risk of inducing an inattention to general hygiene and the incursion of rash experiment, which will do more harm than antisepticism will do good, even if everything claimed for it is true. That this is no fancy sketch is proved by what Mr. Spencer Wells narrated in his lectures at the College of Surgeons on abdominal surgery.”

I can only say further that in my opinion any man who deliberately performs an operation under circumstances from which his patient acquires fatal blood-poisoning ought to be the subject of a criminal indictment.

I am also strongly of opinion that no surgeon engaged in constant attendance on the promiscuous cases admitted to a general hospital should perform such an operation as ovariectomy, and I look on it as mere foolhardiness on the part of any one to perform it to whom it will probably never occur again to engage with such a case, or whose experience is likely to be limited to two or three such cases in a lifetime. It is an operation beyond all others requiring that readiness of adaptation for emergencies which wide experience alone can give. Its complications are far more varied and tax far more heavily the courage and presence of mind of the operator than those of any other operation in surgery; and one or two successful cases scarcely compensate for those which are unsuccessful by lack of experience.

It may be urged against these views that they are merely the opinions of a specialist, and therefore represent only a limited interest; but my experience, were I permitted to detail it, would be sufficient not only to convince my readers that my views are well founded, but that they really represent the best interests alike of the public and of the surgical profession. To any members of my profession who may be inclined to argue this point let me put the question as to whom they would entrust their wives or sisters for the removal of an ovarian tumor—to a surgeon engaged in general practice, whose experience of these cases was limited to some half dozen cases with some two or three deaths, or to one who engaged in this kind of work only and diminished in every way all risks of infection, at the same time that he increased his special experience? The fact is, as Simpson very well showed in 1845, it was to a large extent because the operation was not made a specialty that it was so long in receiving professional acceptance. “The diagnosis and the operation were, under the existing divisions and arrangements of practice, undertaken by two different sets of practitioners—the former by the obstetric physician, and the latter by the operating surgeon. It was, perhaps, the only capital opera-

tion in which the surgeon was required to proceed upon the diagnostic knowledge of another party; and no one was to be blamed if he felt a natural repugnance to incur so serious a responsibility on such grounds.”

It was mainly this which made Mr. Syme hold out so strenuously against the operation and refuse, to the end of his life, to perform it, even after Dr. Keith had shown what splendid results could be obtained in Mr. Syme's own city. By common consent it is being handed over to special practitioners, for whom no special name has yet been coined, and whilst the department of obstetrics is being retained by physicians, abdominal surgery is passing over to the surgeons.

The room in which the operation is to be performed should be fairly large, and so arranged that ventilation may be possible from window or door to the fireplace without the current crossing the bed of the patient. There should be no unnecessary furniture, and as little upholstery work as possible. Two small iron couches, with firm hair-mattresses and a water-pillow, are needed; and an intelligent woman for nurse, who will do as she is told, *and nothing more*, is absolutely essential. If two such can be got to act as relays for the first eighty hours after the operation, it will be found a great advantage.

For my hospital practice I have now arrangements altogether different from those of my earlier experience, and the results are correspondingly good.

The patient herself requires a little preparation for the change that is about to be made in her alvine actions. For this purpose, I direct that her food should be limited to soup and a very little bread for forty-eight hours before the operation, and that on the morning of the day previous she shall have a small dose of castor-oil. The elaborate preparations which were in vogue twenty years ago, of both the patient and her surroundings, are now quite abandoned.

I prefer that the room should have a northern light, that the day should be clear, and I have the patient placed on a firm, narrow table with her feet directed against the window. The arms and legs are secured by bands to the table, so that only one assistant is required, one person to give the anæsthetic, and one nurse to look after the sponges. All other bystanders are earnestly requested to do nothing unless specially desired, and above all not to speak during the operation. My assistant is duly instructed in his work, and I never, if I possibly can help it, operate with any but my usual assistant, for it is quite as important that he should know how to help me as it is that I should know how to operate. All the preparations of the instruments and

sponges I make myself, and then I am sure nothing is forgotten—or if anything should be omitted, I have only myself to blame. As a successful ovariectomy is the resultant of a large number of petty details carefully attended to, no amount of care and precision can be too great in carrying them out.

The instruments to be provided are, a perfectly sharp scalpel, twelve of Koeberlé's scissor-forceps, four handled needles threaded with two thicknesses of silk, two pairs of cyst-forceps, a pair of large screw bull-dog forceps, a wire clamp, a pair of scissors, a number of pieces of fine silk, about a foot long, for ligatures; a number of pieces somewhat thicker, eighteen inches

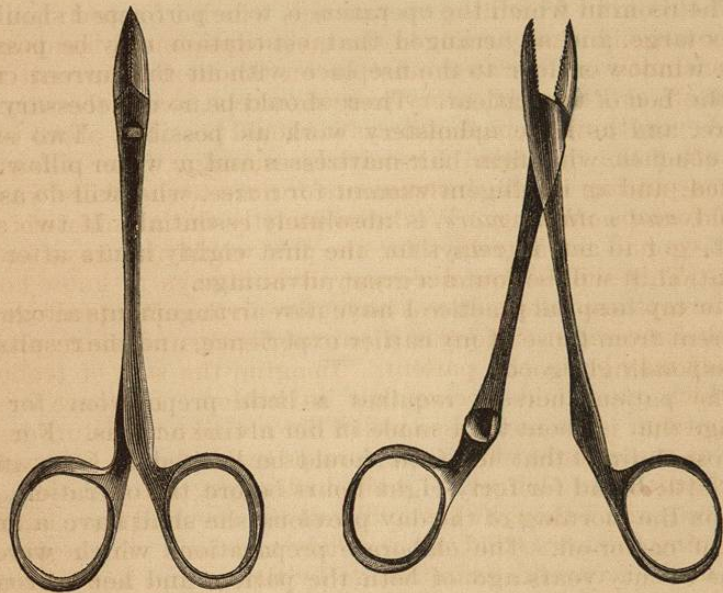


FIG. 30.—Tait's Modification of Koeberlé's Forceps.

long, for sutures; Paquelin's thermo-cautery, an aspirator, two sizes of trocar, and twelve good sponges. Of this list some of the items require special mention, and the first is the scissor-forceps of M. Koeberlé. Of the numerous minor improvements in our method of operating, none deserves to be spoken more highly of than the introduction of this instrument. I give above a figure of the pattern (Fig. 30) I use, though I do not know that it has much advantage over M. Koeberlé's original form beyond the fact that it is stronger and does not break, and that its pointed nose cannot be tied in the ligature. Its method of action will at once be seen. As soon as a bleeding point is seen it is seized

by one of these instruments and left in its clutches, so that when the operation has advanced as far as the treatment of the pedicle as many as eight or ten of these forceps may be hanging about the wound. More than twelve are rarely required, and if there should be need for more, one or two in use must be released by the assistant throwing a ligature round the points held by two or three. I have never more nor less than twelve, and I have them always ready to my hand in a small tray, covered with water and ranged carefully in order side by side, so that at a glance I can tell how many are in use. In this way I make sure that I never leave one inside.

Mr. Spencer Wells gives a very graphic account of an accident of this kind from his own practice, which I quote in full to show how easily it may occur in the most experienced hands and how constantly an operator must be on the alert to prevent it: "I took off, as I thought, every pair of forceps, closed the wound up, and everything seemed quite as it should be. But about two hours after the operation I received a message from a friend who was putting up the instruments for me to say there was a pair of forceps missing. We knew exactly the number of forceps; if we had not known that, one pair would not have been missed. This shows how necessary it is always to know how many forceps are taken. It was about five in the afternoon when I had this message: 'There is a pair of forceps missing; probably they may be in the patient.' Imagine the sort of feeling with which one would receive that intimation. I at once went to the patient. She seemed so well I did not like to disturb her; there was some doubt where the forceps might be, so I thought I would wait a little longer. I waited till night; she still seemed pretty well, and I thought I would wait till the morning; but in the morning the nurse told me the lady had been very restless. I then made a careful examination by the vagina and rectum and abdominal wall, to see if I could feel the forceps, but there was nothing to be felt at all. Still I was uneasy, and I thought I had better open the wound. So I asked Mr. Thornton to come with me and throw some carbolic spray over the abdomen, and making some excuse to the patient, just saying I thought it necessary to change the dressing, and it would be as well that she should not feel it, I gave her methylene, removed the dressing, and took out two stitches. I put one finger in, but at first could not feel the forceps. At last I found something hard, put another finger in, and found the forceps wrapped up in the omentum. From the way in which the omentum had insinuated itself into the ring-handle of the forceps and between the blades, it was easy to understand how difficult it was to find and re-

move the instrument; but I did it, returned the omentum, closed the wound, and the patient was none the worse. She got perfectly well, and to this day does not know that anything unusual occurred. Pray let me use this confession to impress upon you the necessity, not only of counting sponges, but of counting instruments also, that you may avoid any such painful experience."

These instruments are of great service in saving time, and this is a matter of importance in an operation which may extend over an hour. When the time comes for the removal of the forceps, after the pedicle has been dealt with, it will generally be found that the mere pressure has stopped most of the bleeding points. These instruments will also be found of great service in pulling out cysts and in many other ways which experience will indicate.

The handled needles, armed with silk, are items of the list upon which I take a great deal of trouble. They must be well made and well tempered, so that they will neither break nor bend. They must not have broad cutting points and must not make big holes. The eyes must be perfectly smooth and round, so as not to cut the silk. In fact, like everything else in ovariectomy, they must be perfection. The silk with which they are armed is of two thicknesses, for I always tie a pedicle or a mass of omentum with the thinnest silk I think capable of securing it. Therefore, for a thin pedicle I use thin silk, and for a thick pedicle I use somewhat thicker silk. The silk must be pure Chinese twist, with no cotton in it, an adulteration easily detached by liquor potassæ. I scald every piece of silk to be used before the operation in boiling water, to get rid of the gum, and then I stretch it tightly to test it and to reset its fibres. In this way I have secured myself against ever having had a ligature slip, an accident I have heard other surgeons complain of.

The form of trocar I use for emptying the cyst is figured on opposite page, and I claim for it the advantages that, being perfectly solid, it never admits air, and having no inside mechanism, it never gets out of order. The form of its point enables the operator to puncture secondary cysts without any alteration of the mechanism; it is not sharp and therefore can do no harm.

Of the sponges to be used it is almost impossible to speak with too great emphasis, as I distrust them more than anything else about the operation. I never let them out of my sight and I will not permit any one but the nurse in charge of them to touch them. They are prepared for each operation with the utmost care and the number in use is constantly *twelve*. They are counted before the operation, before the wound is closed, and

again afterward, so that by no possibility should one be left inside, an accident which has happened a great many times in the history of ovariectomy and which nothing but the greatest care will prevent recurring. Mr. Spencer Wells gives his experience in this point as follows:

"In one case I was a long time searching for a sponge before I could find it. No one who has not tried would believe the difficulty of finding a sponge in the abdominal cavity, if it be not very large, and have become saturated with fluid. The lady was the wife of a surgeon, and I operated upon her in the fifth month of pregnancy. After the pedicle was secured, and I was closing the wound, the nurse said there was a sponge missing. I said 'Are you quite sure?' She counted again, and said, 'I am sure there is a sponge missing.' I felt in every direction in this lady's abdomen; put my hand to the bottom of the pelvis, to the front of the uterus, and everywhere I could think, but

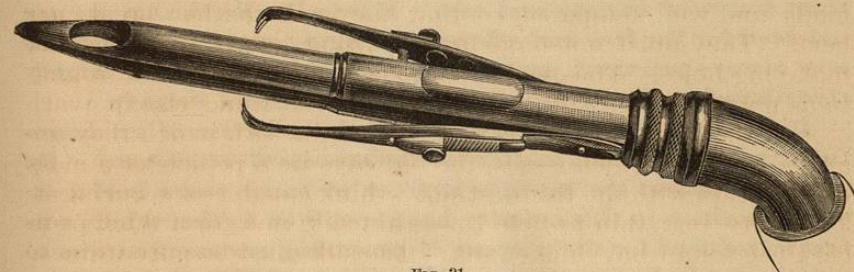


FIG. 31.

find the sponge I could not. But at last, up to the back of the liver, between the liver and the diaphragm, I found a small sponge, and removed it. The patient made an excellent recovery, in spite of all this groping. But this leads me to repeat the caution not to use sponges so small that they are not easily found."

Let me further say again that no one should touch the sponges but the nurse responsible for them. In one of my early operations, many years ago, a bystander hearing me ask for a small sponge tore one in two, so that there were thirteen in use instead of twelve, and both the nurse and myself were ignorant of the fact. The gentleman who tore the sponge alone knew of his act, and he left the room before the operation was finished. The result was that we found that thirteenth sponge four days after, and the horror of the circumstance is as vividly in my mind now as if it had happened yesterday. I shall never forget it as long as I live. I happen to have heard of ten other cases

in which sponges have been left behind, so that I need no excuse for the emphasis of my advice on this point.

The sponges used should be of the very best quality, should vary somewhat in size and shape, and should be perfectly free from tears or ragged points, from which pieces may become detached. When they are new I soak them for twenty-four hours in a solution of muriatic acid sufficiently strong to be disagreeably sour to the taste. This dissolves the particles of chalk with which they are infested and loosens the sand, and this must be completely washed out of them. After each operation I wash them free from color and then soak them for forty-eight hours in a strong solution of washing-soda or ammonia, to dissolve the fibrin. They are then washed repeatedly until the water comes from them perfectly clean, and after that they are placed for a week in a five per cent. solution of phenol. Finally, they are hung up in a well-made calico bag in a warm place till they are quite dry. I keep a very large stock of sponges, and they are a constant source of anxiety and care. It is to Dr. Keith that we are indebted for the free and efficient sponging out of the abdomen now always practised, and in this respect he has again largely contributed to the advanced success of abdominal surgery.

It hardly requires to be said that the selection of an anæsthetic is an important matter for the success of ovariectomy. By common consent the agent which for so many years held a supreme position in this country has given way to that which was first introduced for the purpose of procuring unconsciousness to pain in surgical operations. Chloroform, while it acts with an almost mathematical certainty upon a woman in labor, is a most unsafe and uncertain drug to use in surgical operations, save in the case of a very young child. It is not only that we have a considerable number of deaths from chloroform, but that in its use we have so much anxiety that the danger is ever present in the mind of the operator, and this distraction is destructive of that clear concentration which is necessary in the performance of ovariectomy.

Mr. Spencer Wells has for a long time advocated the use of the bichloride of methylene by means of Junker's apparatus, and this is certainly a very elegant, rapid, and, compared with chloroform, safe means of inducing anæsthesia. There are, however, two objections against its use; one is that it requires a special apparatus, and the other that this apparatus requires some one experienced in its use. In the hands of one who is accustomed to give the bichloride I think it is probably as safe as any anæsthetic well can be, but as it is wholly impossible always to obtain the services of one sufficiently skilled, I have for a long time dis-

continued the use of this agent. There are other reasons against its use which I do not think of sufficient importance to dwell upon. The agent I have employed for the last six years is free from any objection of an important character. I allude, of course, to sulphuric ether, which is now recognized as by far the safest anæsthetic in use, the kind of ether which I employ and which I prefer above all others being the anhydrous methylated ether manufactured by MacFarlane & Co., of Edinburgh, as originally recommended by Dr. Keith. The advantages of this agent are very numerous. In the first place, so far as its present use has gone, it is absolutely safe; in my own practice it has been used, on a rough estimate, between five and six thousand times, and not only have I had no accident from it, but its use gives me no anxiety whatever, and whilst I am engaged in operating my mind is absolutely at rest concerning the anæsthetic.¹ In the next place, it may be administered by any one, and when I say that in the whole of my hospital practice, for nearly three years, the ether has been administered for all operations by the sister in charge or by a nurse, I think I give testimony sufficient as to my confidence in the safety of the drug.

For its proper administration very few rules need be observed and no kind of special apparatus is needed. It is always given for me after the simple fashion which Sir James Simpson introduced for the administration of chloroform, that is by dropping it on the outside of a single fold of a towel, laid upon the patient's face. Bearing in mind that ether is extremely volatile, and that its vapor is very heavy, the following directions must be attended to. The towel used must not be too thin, because it must retain a sufficient body of ether for the continuance of the current of vapor; and yet it must not be so thick as to prevent the passage of air freely through it. The ether must be dropped on to the towel, not splashed on, but administered in a continuous stream, which must be allowed to drop from a small orifice on to the towel, above the level of the patient's nose, because the vapor of the ether will fall like a cataract over the patient's face. If the ether is dropped on the towel on a level with the patient's mouth, she will inhale, not the vapor, but a mixture of air and ether, which will act as a stimulant and not as an anæsthetic, and the ether must not be splashed on, for exactly the same reason. The towel should not be tightened over the face, but puffed out around it at a distance of an inch, or an inch and a half, from the skin, in order that it may enclose a body of vapor. The

¹ Since writing this I have had an accident (British Medical Journal, July 14, 1882) due, as I think, to the use of an inhaler.