

necessarily insure to us the very nicest approximation of parts, and, if what is termed immediate union cannot be obtained, we will at least secure to our patient, by such care, the smallest possible scar. To insure the most perfect union, a wound should never be approximated until all hemorrhage has ceased and the raw surface becomes glazed with a film of lymph.

Fig. 469 represents a modification on the ordinary operation for simple hare-lip which the author has now performed many times, and always with the most satisfactory success. This operation, as is seen, differs from that shown in the preceding figure in having the parings utilized in place of being cut away. Studying the diagram, it is seen that the parings, being commenced at the nasal septum, have been cut to the free border of the lip, from which, supported by their attachment, they hang. From the septum to the apices of the flaps it is seen that raw surfaces approximate: the parts in this

FIG. 469.

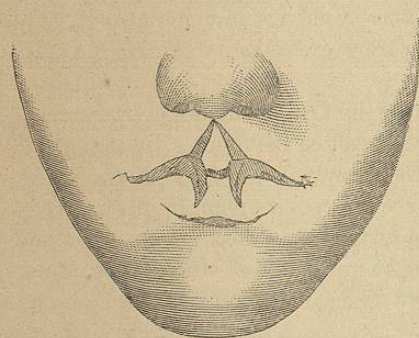
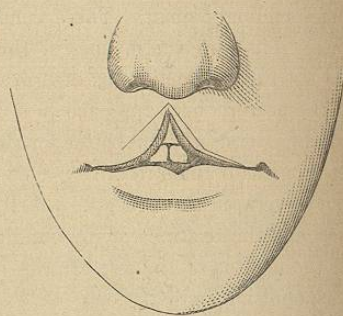


FIG. 470.



condition are now brought and retained in apposition, the pendent portion being trimmed to that shape which considers the labial swell. This operation performed properly, a notch cannot result.

A second modification on the basal operation is shown in Fig. 470. Here, as is seen, one side of the break (the left) is most extensively pared, the section taking off quite a portion of the free border of the lip. Upon the opposite side, however, the paring is compensatory. Study of the section will exhibit that the flap of the right side of the face restores the removed part on the left, affording, at the same time, complete continuity of the free border of the lip at the mesial line.

Complications.—The first modification of the simple mesial cleft, which has been described as a type, is where the break is to the one side or other of the labial centre, this centre constituting one of the lateral boundaries. This character of cleft, particularly as the left side is concerned, is by far the most common form; indeed, it is to be denominated the type proper of hare-lip.

In operating on a case of single break, laterally related, as thus described,

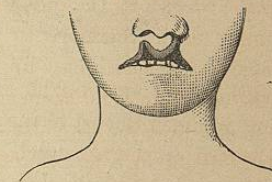
certain variations, as must be seen, are demanded. Employing the ellipse, it is recognized that the labial prominence would necessarily be thrown out of that exact central position which is its place. The same defect would reside in uniform pendent parings. To meet the objections, using the ellipse, a modification, as practised by Malgaigne, is employed. The surgeon makes the one side of a simple V-cut upon the outer flap; upon the mesial is practised the ellipse. The bringing together of two surfaces so related throws down, as is seen, the free border of the mesial flap.

A modification on the operation of the French surgeon, suggested by Dr. Richard Levis, consists in making a double V on the mesial flap. Entering the knife just below the nostril, a first incision pares the flap; a second removes from this surface a small V-shaped piece, having its apex looking toward the cheek. In bringing the parts together, which is done by inserting a pin at the apex of the second V and passing it through the opposite flap, it is seen that the free border of the mesial flap is alike bulged downward.

Better, however, than the operations either of Malgaigne or of Dr. Levis, is the modification shown in Fig. 469; this, however, being on a precisely similar principle, the paring from the mesial flap being to such extent heavier than its fellow, as shall place the desired prominence in its right position.

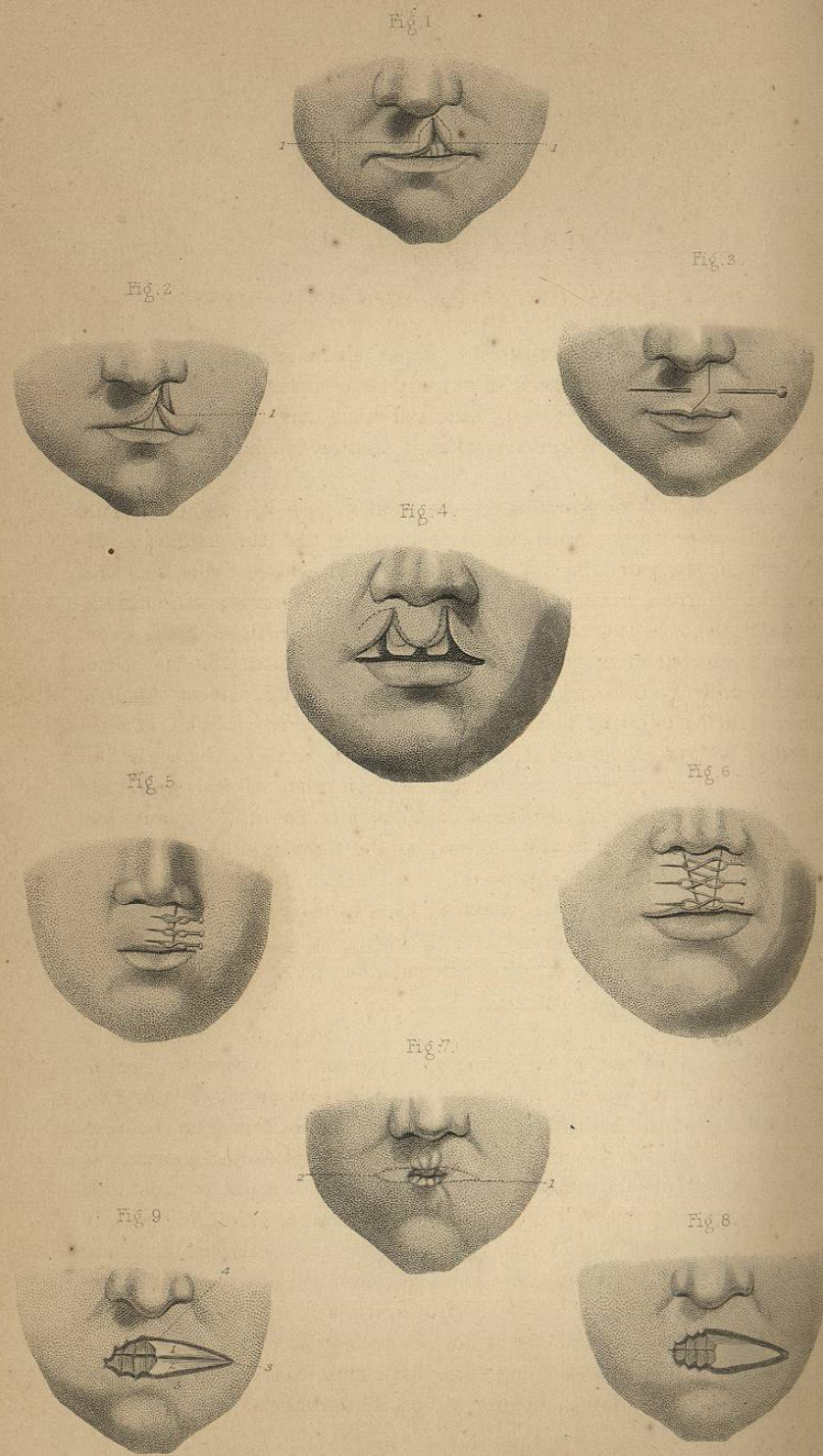
Another variety in hare-lip, and the next most common, is that in which the break is double,—that is, the single break is divided into two parts by a teat which starts out from the apex of the cleft; this teat is seldom more than half the width of the lip. Fig. 471 exhibits very satisfactorily an example of the most simple of such double breaks. A second is shown in Plate VI., Fig. 4. For the correction of this defect, various means are resorted to. Some surgeons cut out the teat, thus converting the double into a single break, making the basis cleft as described. Others, on the contrary, after paring all the four sides, tease and strain the centre piece or teat until they get it on a level with the rest

FIG. 471.



of the lip. Both operations are objectionable. The first takes away an unnecessary amount of substance from the lip, thus giving a tense, stretched appearance to the part, while from the second manipulation, the natural resiliency which belongs to most tissue compels a character of notch or central depression almost as unsightly as the original deformity. In this simple form of double hare-lip it is found the most satisfactory operation to pare the lateral flaps in the form as shown in Fig. 469, while the centre teat should be pared into the V-form, the base being to the septum narium; all the parts will thus be found capable of a neat approximation, the teat doing its share more or less in filling up the break. The approximation is to be made in the manner described.

A second form of double hare-lip is that in which alveolar process is asso-



CHAPTER XLVI.

OPERATIONS UPON THE LIPS AND CHEEK.

Hare-lip.—This defect consists in a break, single or double, in the continuity of the lip. The deficiency in its typical form is almost precisely similar to that which exists naturally in the hare and rabbit, having from this resemblance taken its name. When congenital, it is always found associated with the superior lip.

A general idea of the operation for the relief of hare-lip, and indeed the one which comprises the principles of the cure, is, that the margins of the cleft, or break, be pared, be brought together, and held in apposition until nature shall secure a union. There are, however, nice surgico-artistic associations which are to be studied in connection with such principles of operation. Cutting manipulations upon the face, and especially about the lips, claim more than ordinary skill and judgment. Such skill and judgment the practitioner is to be prepared to exercise, if not for humanity's sake, at least for that of his own credit and reputation. As truly remarked by the skilful surgeon, Mr. Skey, "on the more or less perfect result of such operations depend the appearance and expression of the patient for life." Surely, just so far as an operator shall beautify or mar, is the comfort of the patient, as well as his own satisfaction, influenced.

A proper and comprehensive study of hare-lip divides itself into three subjects of special signification:

- 1st. The time of life best suited to the operation.
- 2d. The condition of the patient.
- 3d. The mode of operating.

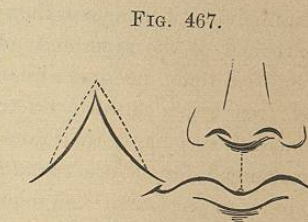
In making up the sum of an operation, a surgeon is to consider, regardless of the age of the patient, the amount of shock such operation is to give, and the ability of the patient to bear it. This at once brings up the character of the defect, and the amount of manipulative proceeding necessary to a cure. A bad double cleft would inflict a greater amount of pain than a simple single one, consequently would inflict a shock double or treble in measure. Now, every man, woman, and child in the world has a certain amount of physique, and no more. The experience and physiological knowledge of the surgeon should enable him to weigh this life-force. He must decide, in the first place, whether or not his patient be equal in such force to the demands of a proposed operation. He must consider the condition of the patient. This brings up the second of the special propositions, or

stand-points, from which the operation is to be studied. The possession of a capable physique does not imply that life-force has not, like the tide, its ebb and flow. A child may have proper development, yet at the time when presented for operation may labor under temporary depression, the result, perhaps, of functional disturbances. One, for example, just convalescent from cholera infantum, or just recovered from some of the exanthemata, would certainly not be so fit a subject for cutting as though it had not suffered; it may have borne the demands made upon it very well, and come out of the ordeal looking strong; but then it is the last feather that breaks the camel's back; the physique that endured bravely the one demand may not have a residue of force on hand that will just then meet another. Give such a system time; get it back to the condition in which the first demand found it, and you then have it certainly capable of the same resistance and of the same endurance. Again, a patient may not be up to the required tone, and yet circumstances render a speedy operation desirable. We can assist nature. Exercise, fresh air, and proper food will do much. The last may imply that the milk of the mother, if the child be nursing, is exchanged for that of a nurse. Who has not examined the milk of a mother or wet-nurse and found it greatly deficient in some important constituent? The author has seen babes growing weaker and more puny day by day; has seen physicians baffled because they could find no one portion of the economy less healthy than another. He has seen the microscopist take the milk on which such a babe has been feeding, and, looking at it through his glasses, find large quantities of cholesterin. A change of milk has effected an immediate change in the health of the child. A babe may have fibrinous blood to excess, tending to undue circulatory excitement, or the lymph which such blood would exude might be so corpuscular in character that a wound would at once take on suppurative action. Either condition is adverse to an operation. We have, however, alteratives for the one, and tonics for the other. A seemingly strong child can be in a typhoid state, and a blushing cheek may be but the effect of hectic or excitement; typhoid blood has, comparatively, no fibrin. If you were to perform an operation on a patient so conditioned, you would be sure to have a failure for your pains. The writer has had under care children in just such a typhoid state; the pulse would be bounding and the face always flushed: such quick pulse and flush are, however, resultant of very deficiency in blood. A child may be cutting its teeth, yet this does not necessarily contra-indicate an operation. It is not every child that has convulsions and kindred troubles with the cutting of teeth; many an infant goes through the whole process of dentition without cause on which to ground a sob. If a child be brought to the surgeon, cutting teeth, with an operation for hare-lip to be performed, and there be associated with the dentition no general or special local disturbance, why should he not proceed, *cæteris paribus*, at once to operate? There are no objections to so doing.

The author, who has operated on such number and conditions of hare-lip cases as to afford confidence in his experiences, prefers that period which precedes the eruption of the first teeth. In babes of such age he has frequently been able to remove the first pin in twenty-four hours, and the remainder at the end of the second day. Any time between the eighth week and the sixth month is to be esteemed a period of selection. Operations have been performed by him after the thirtieth year.

The next consideration is the performance itself,—the modifications of the one principal operation, and the variety of clefts influencing modifications.

A basis operation is best represented by a simple V-cleft, having the mesial line of the lip as its centre,—the indication being to restore such lip to a normal contour. (See Fig. 467.) On examination, we find that a normal lip has no break in its continuity; we find what may be termed the centre lip represented at its free margin by a projection of more or less graceful curve. We find, extending from this free margin up to the septum nasi, and bounded laterally by the alæ, a fossa,—the fossa labialis. From this fossa we find the lip on either side spreading itself out to be



lost in the cheek. To meet the indications of this case we are to remedy the break in the continuity, create a mesial projection, and give to the centre a fossa. To fulfil such indications requires a study of the conditions from a surgico-artistic stand-point. We want, first, to correct the cleft. This in itself is easy of accomplishment; we have only to pare the edges and sew, or pin, the raw surfaces together. In viewing this first step a little more closely, we perceive that a common V-paring from the edges of the V-break would defeat our purpose in securing either a centre fossa or a mesial projection; the mode of bringing the parts together would put on the stretch such fibres of the orbicular muscle as are associated with the margin of the lip, while all that portion farther up would be comparatively relaxed; thus our fossa would be a promontory and our soft median swell a stretched mucous membrane. Such an operation would, then, in meeting the first indication, defeat the two others. We must, therefore, instead of the V-cut, seek a better; for on the way in which we pare our edges depends the fulfilment of the three indications. An ellipse suggests itself, and such a paring will, measurably, meet our wants. 1st. It enables the edges of the cleft to be brought together. 2d. The centre of the ellipse is its transverse greatest diameter, and this centre is the centre of the lip. When we bring together this most widely separated part, it necessarily projects the most yielding surface,—and such surface is the free symphysis of the lip; thus the second indication is met. 3d. The greatest stretch on the muscle is in the site of the myrtiform fossa, with a necessary relaxation above and below; and thus the last indication is met; for, as the

result of such a condition of the parts, we have a fossa formed and a promontory at the free mesial line.

REMARKS.—The paring of a cleft is always to be constant in the one feature of being V-shaped, as reference is had to the base of the V looking toward the throat; this allows for excess in the retraction of the skin over the mucous membrane. If this precaution be neglected, a difficulty is likely to be experienced in the gaping of the cutaneous portion of the wound.

The subject of retaining the parts in apposition, with regard to suture material, has elicited much controversy. The ordinary operation is as follows. After you have pared the edges of the cleft, take up a needle threaded with the ordinary waxed silk, pass this through the free margins of the lip and bring the parts together; this is to insure a satisfactory approximation at this point. Next take three ordinary steel pins and pass them at equidistant points on the lip,—they must go, in depth, at least half its thickness; these pins are to enter and emerge at least five lines on each side of the fissure. Silk ligature stuff, in the shape of the figure-of-8, is now to be passed about and around these pins. (See Plate VI., Fig. 5.) Adhesive strips are next passed over the pins, a slit being made for their accommodation; the object of these strips is to press tissue toward the wound, preventing, through such support, undue tension. If blood oozes out and clots upon the ligatures, it is considered favorable rather than otherwise, as it is thought to add to the support of the parts. After two or three days the pins are carefully removed by a rotatory motion; the ligature material and adhesive strips are allowed to remain from four days to a week longer.

Various means have been suggested to be employed in lieu of the pin and figure-of-8 dressing, objection to such dressing certainly existing in ulceration apt to associate with the pressure induced by swelling. Professor Agnew uses silver wire. He simply sews the parts together with a greater or less number of interrupted sutures. He thinks such sutures possess great advantages over the pins.

Another means of bringing the parts together which has been suggested, consists in the employment of the interrupted suture of silk used from the under surface of the lip. In such use of the hidden suture nice approximation and support are to be given the face of the wound.

Dr. Washington Atlee has suggested a suture which differs from the ordinary pin and figure-of-8 only in that he employs rings of india-rubber, which are stretched over the pins. This suture for many purposes must prove an admirable addition to the armamentarium chirurgicum; but in hare-lip operations it has no advantage over the ordinary figure-of-8, inasmuch as the same strain, if not a greater, is exerted upon the points at which the rubber is supported by the pins. The merit claimed for this suture is, that whether a part swell or remain normal, the compressing force continues the same.

A mode of securing apposition of the parts, which will be found very satisfactory, is to take three, four, or more threads of silver wire,—the fewer

you can get along with the better,—the gauge being the most delicate that can be procured; pass these and let them emerge at lines which shall very nearly correspond with the commissure of the lips. Next take a strip of common sheet-lead, and, cutting it to an appropriate size, make in it as many little holes as you have threads to either side; pass the threads through these holes, and compress on each a McLeon button,—*i.e.*, a simple flat shot having a hole through its centre. Now, with the fingers, nicely approximate the wound. This satisfactorily accomplished, draw up the wires and fix them on a second piece of sheet-lead, as in the first instance. If the centre, which is the line of the wound, tend to bulge forward, a delicate compress is to be placed over it, and bound to its place by an adhesive strip. The advantages of this dressing are, that it may be retained for weeks, if necessary; it is entirely unirritating; the wound is exposed to examination; and, more than all this, the threads, being unirritating and very slight, when taken away leave no scars.

A still happier dressing, but one which can be applied only on such patients as have reached the age of intelligence, is a modification on Dewar's dressing. Hainsby's compressor may be likened to the ordinary double hernia truss. It consists simply of a spring which passes around the head, having a small pad at each extremity. The piece is of such circle and character as to bring the pads to the labial commissures. The instrument is held in position by any convenient means. Dewar holds it by what might be termed a fronto-sagitto-lambdoidal sling. The process of dressing with this instrument is as follows. After making the paring of the cleft, cleanse the parts well with cold water (controlling hemorrhage by pressure on the facial arteries); next take a strand of the common silk ligature material, and nicely approximate the free edges of the lip, passing the needle on the under side. The next step is the application of the compressor. With the thumb and finger force the tissue of the cheeks toward the mesial line of the lip,—this approximates perfectly the edges of the wound; replace your fingers by the compressor, and the parts are held *in situ*. If the approximation of the wound thus

made should not be satisfactory, secondary compresses of linen are to be placed more immediately about the cut, and fixed by a delicate roller. The



FIG. 468.—HAINSBY'S COMPRESSOR.

advantages of this dressing will be at once apparent. There are no pins or ligatures used, consequently there is nothing to interfere with direct union; there are no punctures made in the skin; of course there is no risk of having any but the single linear scar, and even this, if direct union be secured, must be slight indeed. The parts can be examined at any time without important interference with the apparatus.*

In some individuals the coronary arteries are quite large. To suppress the hemorrhage from these vessels, dependence is generally placed on the pressure exerted in bringing together the edges of the wound. If such pressure fail to answer, or if we should prefer some dressing that will not make it, light ligatures may be thrown around the vessels, one end to be cut off, the other to be brought out at the back part of the wound. Ligatures, however, are to be avoided where possible, as they interfere with proper union.

A much better means than resort to the ligature is compression of the facial arteries. Such compression needs to be kept up but for a short time, as the smaller vessels soon contract. Hainsby's compress controls the hemorrhage by its pressure on the coronary arteries, and its action may be very readily imitated with a common roller.

There is a feature associated with the formation of the linear cicatrix, and the unsightly notch which so commonly deform hare-lip patients, that is not enough considered, being of a consequence to merit the closest scrutiny. Is it the fault of nature or the fault of the surgeon that the operation gives any cicatrix at all? Cicatricial tissue—*tissu inodulaire*, as Delpech more happily terms it—means accidental tissue,—new tissue formed from granulations. The existence of inodular tissue implies, as it is greater or less in amount, that a wound has healed either by primary or secondary adhesion, and certainly not by what Mr. Hunter terms union by first intention, or what Mr. Paget calls immediate union. If a wound be made to unite by first intention, there cannot possibly be any observable inodular tissue, or scar, because so little new tissue has been formed, blood-vessels and nerves have been brought into perfect contact, and the harmony of the parts has been so completely restored that after a few weeks the closest observation fails to discover the seat of accident. Familiar examples of such union exist in the slight cuts we are constantly giving ourselves with the razor, the cuts we get about the fingers, etc. Some years back the author removed from the parotid region of a young man a tumor fully the size of a hen's egg. The flaps were adjusted with the greatest care, and held in place by compresses of old and fine linen. Ten weeks after the operation the union was found to be so immediate that it was impossible to say where the cut had been made.†

* This description does not, as is seen, accord fully with the diagram; the pin and figure-of-8 being shown. The drawing has been utilized to show the feature of the ordinary dressing. In depending on a Hainsby compressor, much skill and a continuous oversight of the case are required.

† Mr. Paget mentions very large wounds that not infrequently heal in this perfect

The union of a wound, either by adhesion or by granulation, implies a certain amount of inflammatory action, and the exudation and organization of lymph. This is the way in which hare-lip operations are healed, and this is why we have the linear cicatrix; and not only the cicatrix, but, according as the union has simulated or departed from the immediate type, we have necessarily a small or a great notch.

But how is the notch formed? The explanation is simple enough; but it is not that generally given; at least, that will be assumed. The notch is the result of the natural contraction which belongs to fibrous tissue, of which fibrous tissue the cicatrix is formed; and if we observe, it will be found that where this linear inodular tissue exists in excess, a large notch is always associated with it. If proof be needed that out of such contraction is the notch, we have only to remark that in cases of large cicatrices destruction of symmetry in all surrounding parts invariably occurs; contraction puckers, as it were, the whole part. When a linear cicatrix is very limited, the notch is correspondingly small. These conditions could not so uniformly exist associated, if it were the manner of the paring exclusively that gave the notch, and not the contraction, as described.

The nearer, then, approach to a union by first intention can be secured in hare-lip operations, the better for success will be the result. But can we not get immediate union in full? This would imply that we have artery to artery, vein to vein, nerve to nerve. Well, the artery is a prominent point of reference, and the relations of surrounding parts are in perfect unison. If we can get the mouths of the two arteries together, will not all other vessels assume, by compulsion, inosculation? We may try for this, at any rate; such care will

manner. One case, that of a lady who had been operated on for scirrhus of the mammary gland, may be specially alluded to. Speaking of the operation, he says,—

"The flaps, which were very large, had been carefully laid down, strapped with isinglass plaster, and well tended. After death, which occurred in three weeks, from erysipelas and phlebitis, I cut off the edges of the wound with the subjacent parts, expecting to find the evidences of union by organized lymph, or, possibly, blood; but neither existed; and the state of the parts cannot be better described than by saying that scarcely the least indication remained of either the place where the flap of skin was laid on the fascia, or the means by which they were united. It was not possible to distinguish the relation which these parts held to each other from that which, naturally exists between subcutaneous fat and the fat beneath it. There was no unnatural adhesion; but the subcutaneous fat which did lie over the mammary gland was now connected with the fascia over the pectoral muscle. The parts were altered in their relations, but not in their structure. I could find," continues Mr. Paget, "small points of induration where, I suspect, ligatures had been tied, or where possibly some slight inflammation had been otherwise excited; and one small abscess existed under the lower flap. But, with the most careful microscopic examination, I could discover no lymph or exudation corpuscles, and only a small quantity of what looked like the débris of such oil particles or corpuscles of blood as might have been between the cut surfaces when the flaps were laid down. In short," says Mr. Paget, "this was union by first intention; it was immediate, at once in respect of the absence of any intermediate substance placed between the wounded surfaces, and in respect of the speed with which it was accomplished."