DESCRIPTION

OF A

NEW IRIS FORCEPS.

INVENTED BY

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The iris forceps which I am desirous of submitting to the consideration of surgeons practising ophthalmic surgery consists, like Langenbeck's and Gräfe's, of a fixed and a sliding blade, but differs from them inasmuch as the point of the hook is not only more completely concealed, but its concavity is quite filled by the end of the sliding blade, i.e., when the blades are closed, so that the whole of the piece of iris taken up by the hook is securely held. The form of the hook is also different, being less curved and rather larger, judging from the engravings of Langenbeck's and Gräfe's instruments given in Mackenzie's work on the Eye. In both of these instruments only a very minute piece of iris can be jammed against the bend of the hook. In Langenbeck's, the hook is the sliding blade, which I think objectionable; and in Gräfe's, the sliding blade (which
is not the hook) must be moved both backwards and forwards by the thumb, which may give rise to a want of precision in seizing the exact part of the iris intended to be seized.

In the forceps I am describing, the point of the hook not being at all exposed when the blades are closed (that is, if the instrument be perfect), cannot possibly catch in the margin of the puncture made in the cornea, but which mishap is liable to occur on withdrawing from the anterior chamber a hook the point of which is in the least exposed. The other advantage to which I have alluded is that of firmly holding between the hook and the sliding blade a larger piece of iris, and consequently the hook is less liable to tear its way out, or extract too small a portion of the iris.

In using the instrument it should be held as seen in the sketch, pressed by the thumb against the point of the middle finger, and against the proximal phalanx of the index (nearly as a pen is held), the point of the index finger being quite free to move without in the least displacing the point of the hook. It may be passed through a small puncture in the cornea, either with the blades closed or with the sliding blade drawn back about one tenth of an inch, the point of the hook being exposed, and ready to take up the exact part of the iris intended to be seized.
NEW IRIS FORCEPS.

hook should be passed through the plane of the iris very obliquely, so as to avoid wounding (in cases where there is no cataract) the capsule of the lens; and then the point of the index finger (which had held back the sliding blade), being merely raised from the instrument, the sliding blade shoots forward, and its end jams in the concavity of the hook the piece of iris taken up by the latter. The extraction of a sufficient piece of iris through the wound in the cornea is then easily effected, provided that the posterior surface of the iris be not unusually firmly adherent to the capsule of the lens.

As to the puncture in the cornea, I think it is best made with a knife not more than one eighth of an inch broad, and I generally use one which is curved on the flat, its convex surface being towards the iris. The point of such a knife is less liable than one which is straight to get entangled in the iris, especially in cases where the anterior chamber is very shallow; and, moreover, I often puncture with it the nasal or upper margin of the cornea, if the eye be not too deeply set.

The employment of a sliding iris forceps is not so simple as that of a mere hook. One's hand has in some measure to be educated to its use, so that any requisite movement of the point of the index finger in drawing back the sliding blade may be made without communicating any motion to the point of the hook, and then I think the sliding forceps is both more efficient and safer than a simple hook.

In regard to the construction of the forceps, I may say something, as I both made and invented it. The fixed blade, the hook, is made of a moderate-sized sewing-needle, the point of which is easily curved after softening it a very little. That end of the shaft of the hook which is fixed in the handle (in a piece of cedar fitting tightly in a silver tube) should be ground to a point, and square, in order to prevent the possibility of the shaft of the hook turning in the least on its axis; and it should be fixed in the cedar whilst the blades are closed, whilst the sliding blade is in its proper position, in such manner that the point of the
hook is not in the least exposed. The sliding blade is flat, about one sixteenth of an inch in width, and its end rounded exactly to correspond with the concavity of the hook. When the blades are closed, they have the form of a small spatula, perfectly smooth, and rounded at the point.

If the hook and sliding blade are properly made, and properly fixed in the handle, with a spiral spring of proper force (not unnecessarily strong) to urge forwards the sliding blade, the instrument acts with unerring accuracy; but of course it must be perfect, or it is useless, and without great care it will easily get out of order, either from rough usage or from rust caused by the aqueous humour.

A few years ago I invented and made an iris forceps similar to this, except that the sliding blade was round instead of flat, and in its very extremity was a minute hole, drilled just large enough to receive the point of the hook, thus concealing it most completely.

I have used both these instruments frequently, and with very satisfactory results, in operations for artificial pupil, and also in extracting pieces of opaque capsule; but of the two I prefer that which I have first described, and which the accompanying sketch represents. The instrument itself is in the museum of the Royal College of Surgeons of England.

The following cases, which I briefly relate, are selected from among several in which I have operated for artificial pupil, using the forceps described.

G. F,—, aged 27, was admitted into the Toronto General Hospital, March 14th, 1863, the pupil of the right eye being much contracted and adherent, and the iris convex anteriorly, so as almost to obliterate the anterior chamber. A whitish opacity (cataract) was seen behind the pupil, which was too small to allow of any operative procedure on the cataract until the pupil should have been enlarged. The sight of this eye had been much impaired during the last three years, and totally lost during the last six months. He had had no pain or inflammation of the eye, and could
assign no cause for his loss of sight. He no doubt had formerly iritis, though of a very chronic form.

March 27th, 1863.—I punctured the cornea close to its temporal margin, and tried with a spatula to break the adhesions on the nasal side of the pupil, but found them too firm to yield to moderate force. I then passed into the anterior chamber the iris forceps described, seized the iris close to the temporal side of the pupil, and tore away a strip of it, leaving an artificial pupil on the outer and lower side of the iris.

Slight pain occurred during the first night, but none afterwards, and no other sign of inflammation showed itself. Ten days after the operation the eye presented the following appearance:—A large whitish cataract lying behind the pupil. The cataract I had partially broken up during the operation, and it may now with great facility be further operated on.

J. H,—æt. 40, now a patient in the Toronto General Hospital, was admitted totally blind of both eyes, the left quite disorganized, and in the right a cataract and an almost obliterated pupil. The anterior chamber was very deep, the whole of the contracted pupil was adherent to the anterior capsule of the lens, and the centre of the iris was drawn backwards so as to be very concave anteriorly. He has been quite blind during the last three years, unable to find his way about.

I twice operated on the right eye to form an artificial pupil, and at the first operation I found the adhesions so firm that I did not succeed in making a pupil sufficiently large for future operation on the cataract. At the second operation I enlarged the pupil. No severe pain or inflammation followed the operation, but the eye, which was weak and irritable before I operated, has remained so since (a period of eight weeks since the last operation), and I have not yet operated on the cataract.

M. C,—æt. 50, was admitted into the Toronto General
Hospital, November 6th, 1860, the pupil of her right eye being almost obliterated, behind it a whitish opacity (cataract), and the cornea opaque at its lower and outer part. In the left eye was a soft cataract, its colour bluish-white. I performed keratonyxis twice on this eye, which regained good vision, and subsequently in May, June, and July, 1861, I operated three times on the right eye for artificial pupil, and to extract a piece of opaque capsule, using my sliding forceps at each operation.

On the 17th of July, 1861, with a glass of four inches focus, she could readily tell the head of an ordinary pin from its point.

I might relate many more similar cases, but these are sufficient to show that a good artificial pupil may be formed, even in difficult cases, by using the forceps described, and I believe that every surgeon who is in the habit of operating for cataract must have felt the difficulty of dealing with such cases complicated with much contracted and adherent pupil.