be used where there is septic material present, or where the endometrium is diseased, in other conditions the finger or a dull instrument is sufficient.—Brooks H. Wells, M.D., in *Med. Record.*

ELECTRICITY IN THE REMOVAL OF FACIAL AND OTHER BLEMISHES.

In considering the process of electrolysis it should be stated at the outset that electricity does not by its inherent magnetic power cause destruction of tissue. The constant galvanic current alone may be caused to produce destruction by the chemical action within the tissues of the caustic alkalies, which are freed at its negative pole, and the acids, etc., which are set free at its positive pole. The extent of this action is entirely controllable by the skill of the operator.

A popular but mistaken idea exists on this point, which is well illustrated by the following story:

A telegraph operator applied to the writer for treatment of a nervous affection. Telegraph operators are inclined to feel very thoroughly versed in the mysteries of electricity, and could usually "treat themselves as well as any physician," but for some trifling obstacle which they incidentally encounter. A recognition of this fact will give point to my story.

The patient's mother was also an old experienced telegrapher, in active service, and had herself trained her boy to send and receive with unusual skill.

Upon receiving a letter from him (she lived in the West) that he was being treated by an "electrical specialist in New York," she quickly wrote back, with fond maternal solicitude, to be "very careful and not get electrolysis and injure himself with it."

The apparatus required for the kind of work to be described consists of a galvanic battery of low tension and a voltage that need not exceed fifteen or twenty. An ordinary hand electrode, a pair of epilation forceps, a solid needle holder and a set of needles completes the outfit. The needle holder should not contain an interrupter. Dealers make and sell handles with a device for interrupting the circuit flow, but such a procedure causes a needless aggravation to the patient and is to be sedulously avoided in general practice.

As to proper needles, gold and platinum ones are most frequently recommended for the positive, but for negative use none are superior to fine assorted brooches, bought at a jewelers' material store, and rounded down to a blunt point on a smooth oilstone. The necessity for this will be seen from the fact that a sharp-pointed instrument would pierce through the side of a hair-follicle sac so easily that the operator would not detect it; while a blunt pointed needle would follow the hair down to the root, and stop when it has reached the bottom. This is important in the removal of superfluous hairs. For other purposes sharp-pointed needles are required.

Warts, moles, birthmarks, etc., are of various forms, but we may consider them all in two classes—the elevated and non-elevated. In treating these properly the physiological action of the opposite poles must be taken into account.

If we, for experiment, insert two needles connected with the positive and negative poles of a galvanic battery and pass a constant current strong enough and long enough to produce destruction and then allow the wounds to heal, we will find that two scars remain, and if we watch these scars for some months it will be observed that one very soon turns white, sinks slightly below the surface and contracts, until it is a hard cicatrix.

This results from the caustic acids, chlorine, etc., set free at the positive pole. The negative scar produced by the softening, relaxing caustic alkalies presents nearly an opposite appearance. It is quite liable to be raised above the surface of the skin and to remain red and irritable. By a combination of the action of the two poles with proper skill we hope to obtain a modified scar which will not be depressed, contracted and unduly white, or elevated, red and irritable. The action of the opposing poles must be skillfully balanced against each other, so that the nævus may be removed permanently with as little disfigurement as possible.

This is always a matter of judgment in which experience alone furnishes the guide, taking into account that the negative scar is irritated if exposed to cold blasts of air or subjected to irritation, that the nævus, full of bright, red arterial blood, requires the predominance of the positive pole, and dark venous ones the negative; that in a plethoric or young vigorous person the positive should predominate, while in the thin, the anemic and the aged the negative should predominate.

In removing a facial tumor both needles are to be introduced, unless in some special cases it is desired to secure the action of one pole exclusively. They should be introduced with great care at the base of the nevus, parallel to the surface, and not under the tumor, but so near the bottom that the electrolytic action will destroy it thoroughly.

Inasmuch as the destructive action of the current is the same in all directions around the needle, beneath as well as above, it is very necessary to diagnose the depth of the tumor before introducing the needles in order to avoid destroying more tissue than is absolutely necessary and leaving a scar unduly large. But it is equally important to destroy all the diseased tissue around the edge of the nævus, and leave nothing but healthy tissue, or nuclei may be left for the repro-