

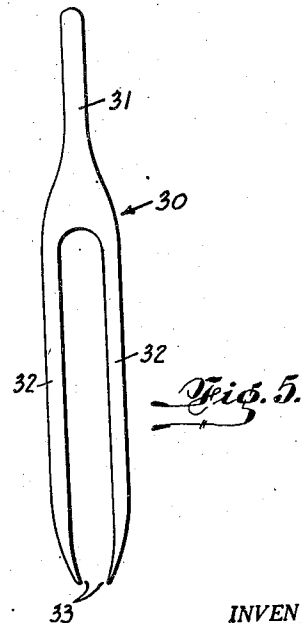
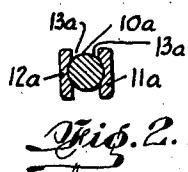
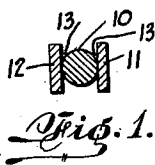
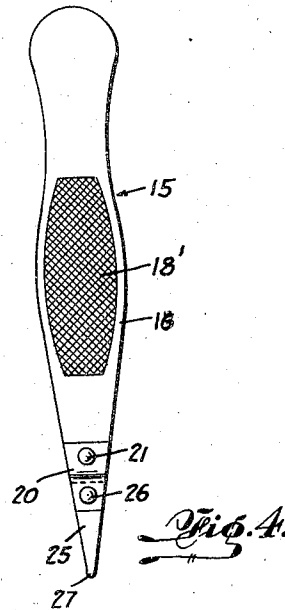
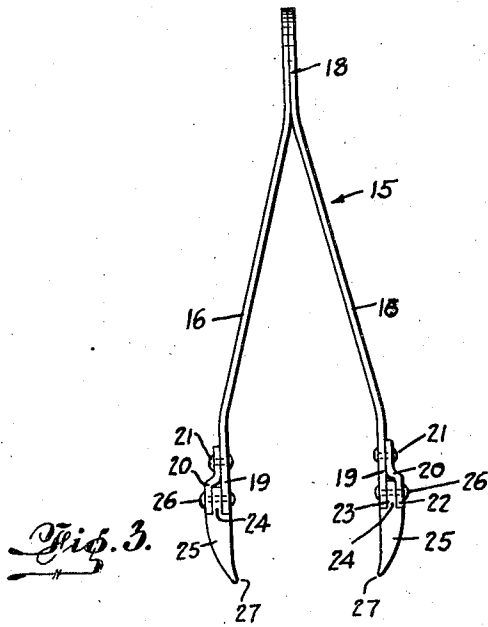
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TWEEZER IMPLEMENT AND THE LIKE

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TWEEZER IMPLEMENT AND THE LIKE

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1 Claim. (Cl. 81-43)

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This invention relates to improvements in tweezers, and more particularly in the type employed for removing hair or hair-like substances from bodies. The invention also is applicable for use in connections with pliers, tongs, forceps, speculums, and similar devices.

It is an object of the present invention to provide tweezers, at least the jaw portions of which are transparent enabling the extent and condition of the object being grasped to be revealed through the jaw portions.

It is a further object of the present invention to combine in tweezers the characteristics of light transmitting, as well as yieldability or compressibility at the points of contact thereof with the hair or other object to be grasped, lifted or removed, thus preventing injury of the object grasped, and facilitating the gripping of the hair or like object for manipulation thereof.

The relatively soft or compressible plastic jaws prevent the cutting and weakening of small objects, such as, a hair or splinter to be withdrawn from the skin the compressibility of the material enabling the jaws to grasp the object therebetween over an area thereof. The plastic jaws will tend to form themselves around the object rather than tweezing it between two flat surfaces which are tangent to it, giving a longer contact with the object.

It is a further object of the present invention to provide tweezers made of springy steel or other resilient metallic material with jaw-sections made of non-metallic, plastic material.

It is a still further object of the present invention to provide tweezers with non-metallic jaws which will be sufficiently compressible as to permit gripping of the hair without crushing the same.

Where the tweezers are made in one integral piece of plastic material, the natural resiliency of the plastic material used in the construction of the tweezer allows the same to open wider and close together with less terminal tension, which helps lessen the crushing forces on the object to be grasped. Where the tweezers are made with wide jaws of clear plastic, it will be possible to view the extent of the object grasped or the size or nature of the grasped object through the side walls of the tweezers.

Since plastics are non-magnetic, it becomes possible to use the tweezers in conjunction with magnets and yet retain its freedom of movement or motion, as the tweezers will not be attracted by the magnet.

In surgical applications it is often necessary to

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use tweezers in conjunction with electrical instruments, such as, cautery, and high frequency desiccation instruments. The di-electric properties of tweezers made in accordance with the present invention will prevent any mishap through shock.

Furthermore, such tweezers are particularly useful in removing shrapnel and other foreign bodies from wounds and because of their ability to grasp irregular objects may be well used in field hospitals during armed conflicts.

These and other objects and advantageous features of the invention and the means for their attainment will be more apparent from the following detailed description, taken in connection with the accompanying drawing, illustrating certain embodiments of which the invention may be realized, and in which:

Fig. 1 is a diagrammatic cross-sectional view of conventional tweezers with metallic jaws engaging a hair;

Fig. 2 is a similar view showing the application of the jaw portions of tweezers made in accordance with the invention;

Fig. 3 is a side elevational view of an embodiment of the invention;

Fig. 4 is an end view thereof; and

Fig. 5 is a side elevational view of tweezers embodying the invention in a modified form.

Referring now more particularly to the drawing, the numeral 10 represents a hair gripped between the metal jaws 11 and 12 of conventional tweezers.

Because of the innate non-compressible characteristic of steel or like metals, the tendency will be to crush the hair at contact points 13 before the pulling or withdrawing operation is completed.

In Fig. 2, the numeral 10a represents a hair being gripped by jaws 11a and 12a of tweezers made in accordance with the invention. The jaws 11a and 12a are made of transparent, compressible or yieldable, plastic material, capable of "giving" at points of contact with hair 10a, as indicated at 12a. It will be observed that the hair not only will be prevented from being crushed, while in gripping engagement with the jaws, but also, the surfaces of the jaws in contact with the hair will be greater than that seen in the conventional example shown in Fig. 1.

Figs. 3 and 4 show tweezers 15 having the conventional bifurcations 16 connected together at the end 18, in any suitable manner and by any suitable means. These bifurcations 16 may be provided with a non-slip gripping surface 18', such as, knurling, etc. The end 19 of each bifurca-

tion is preferably provided with a clamping member 20 riveted at 21 to the bifurcations 16. Clamping member 20 has an offset 22 thus forming a slot or pocket 23 between it and the end 19 of the bifurcation 16, which receives the reduced end 24 of the non-metallic, preferably plastic jaw member 25, the latter being secured in space 23, as by a rivet 26. The free ends 27 of the jaws 25 may be of conventional shape.

The tweezers may be made entirely of non-metallic, plastic material, such as, for example, the one indicated by the numeral 30 in Fig. 5.

In this embodiment, the tweezers may comprise the bifurcated members 32 joined together at body portion 31, each bifurcation being conventionally shaped at its free end 33. Tweezers 30 may be formed from a single piece of material by machining or molding. The jaws 25 (Figs. 3, 4) may be formed by machining or molding.

The jaw members 25 of Fig. 3 and the tweezers 30 of Fig. 5 are made of plastic composition having embodied therein the desired compressibility for the purposes intended. Examples of utilizable materials are, methyl methacrylate plastic, Celluloid, cellulose acetate, polystyrene, pyroxylin, other ethers and esters of cellulose or horn-like materials or synthetic resinous compounds having approximately the physical properties of cellulosic materials or methyl methacrylate. Where the jaws 25 or tweezers 30 are molded, the method of molding may be flash, compression, extrusion or injection.

A material very suitable for the purpose intended comprises an organic plastic, such as, the methyl methacrylates, since this material embodies two desirable characteristics, namely, transmissibility of light through the material and the "softness" or compressibility required at the

jaw portions of the tweezers to grip the hair or other objects without injury thereto. This material is lighter than glass, non-breakable, strong and durable and offers resistance to most chemicals and oxidation.

It will thus be seen that there has been provided by this invention tweezers and the like in which the various objects hereinabove set forth, together with many thoroughly practical advantages, are successfully achieved.

As many possible embodiments may be made of the above invention, and as many changes might be made in the embodiments above set forth, it is to be understood that all matter hereinbefore set forth or shown in the accompanying drawing is to be interpreted as illustrative and not in a limiting sense.

Having thus described my invention what is claimed as new, and desired to be secured by Letters Patent, is:

A surgical appliance comprising a pair of tweezers having a bifurcated body, a member secured to the end of each bifurcation of said body, said member having an offset forming between it and the end of said bifurcation a slot, a tapered jaw member projecting within said slot and being secured to said first-named member and said bifurcation, each of said jaw members being made of compressible and transparent organic plastic material, the compressibility of the material enabling said jaw members to engage an object being grasped thereby and therebetween, and the transparency of said jaw members enabling the extent and condition of said object being revealed through the jaw members.

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