

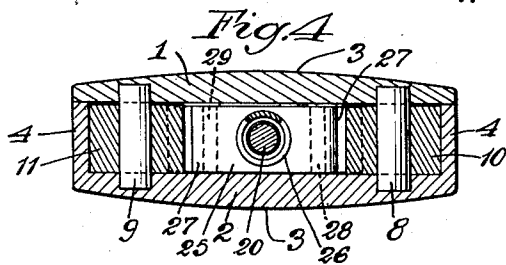
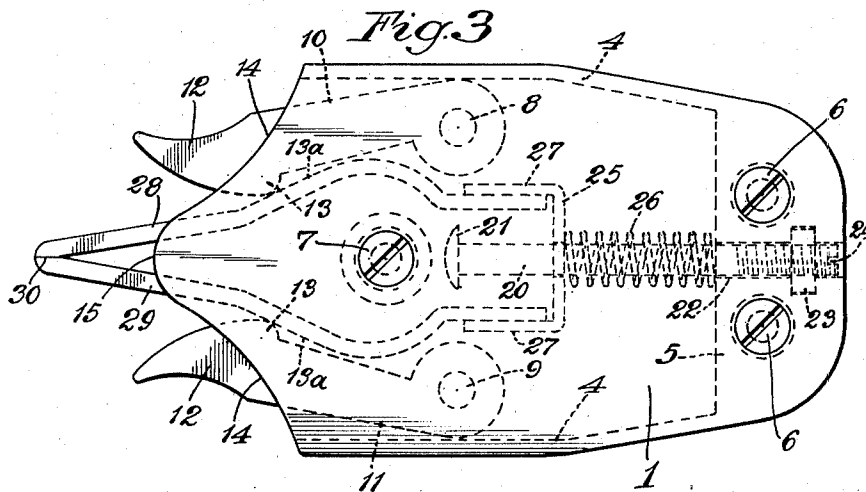
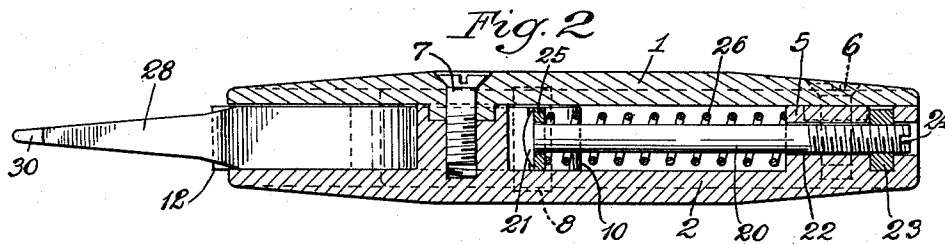
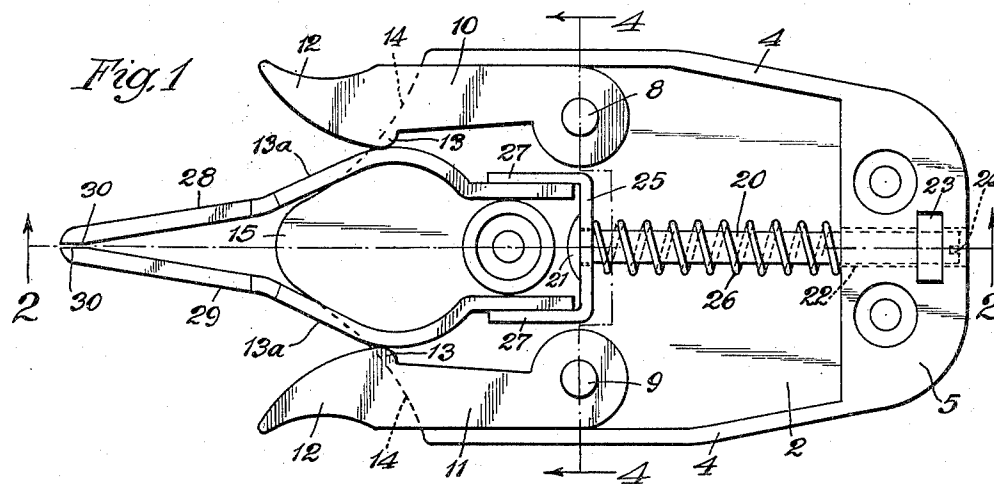
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TWEEZERS

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TWEEZERS

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4 Claims. (Cl. 128—354)

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My invention relates to an improvement in tweezers and has for one purpose the provision of tweezers for picking up small articles, removing hair, or the like.

One object is the provision of such tweezers in which, in response to the normal closing operation, a pair of opposed gripping members have imparted to them a unitary sharp outward jerking movement.

Another purpose is the provision of improved trip means for such tweezers whereby, when a predetermined pressure is applied to the opposed tweezers members, they are jerked sharply backward in relation to the tweezers handle as a whole.

Another purpose is the provision of improved means for guiding the movable tweezers members of a tweezers assembly.

Another purpose is to provide an improved housing for such tweezers which protects the operating structure without impeding its operation.

Another purpose is to provide a structure in which an outer housing cooperates with the tweezers mechanism during the normal operation of the device.

Other purposes will appear from time to time in the course of the specification and claims.

I illustrate my invention more or less diagrammatically in the accompanying drawing wherein:

Figure 1 is a plan view of the invention with the top plate removed;

Figure 2 is a section taken on line 2—2 of Figure 1;

Figure 3 is a plan view illustrating the parts in different position; and

Figure 4 is a section taken on line 4—4 of Figure 1.

Referring to the drawings, I illustrate a tweezers structure housed in a casing. The casing may be of a wide variety of shapes, but I illustrate a casing having opposite walls 1 and 2 lying in generally parallel planes, but preferably being outwardly somewhat convex as at 3. One of the plates may include edge flanges 4 and an end thickened portion 5. The two plates may be held together by any suitable means, such as screws 6 and 7. The plates are also connected by pivot pins 8, 9, to which are pivoted lever members 10, 11 having exterior finger portions 12 and an inner cam 13. The parts are so proportioned that the finger portions 12 are exterior to the plates 1 and 2, which may be cut away or reduced, as at 14, the cut-away portions being sep-

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arated by a forward extension 15 of insufficient length or width to interfere with manual manipulation of the levers 10, 11 by manual engagement of the finger-pieces 12.

The tweezers structure is as follows: A guiding pin 20, headed as at 21, is received in an aperture 22 in the base or end portion 5 of the plate 2. It may be adjusted by screw-threaded engagement with a nut 23, its end being channeled as at 24 to receive a screwdriver or equivalent tool. The tweezers structure is mounted for longitudinal movement in the pin 20. It includes a frame element 25 apertured to ride on the pin 20 and normally forwardly thrust therealong by the coil spring 26. The head 21 constitutes a forward limit for the movement of the frame member 25.

Spot-welded or otherwise secured to the arms 27 of the frame 25 are tweezers elements 28, 29, of suitable spring stock, which terminate in the opposed gripping surfaces 30. At all positions of the parts the ends of the tweezers members 28 and 29 are exterior to the above described housing or container.

When the spring 26 is permitted its full expansion, as in Figure 1, it urges the frame member 25 into position against the head 21. The enlarged, outwardly bowed portions of the tweezers jaws 28 and 29 then move the levers 10, 11 into the position in which they are shown in Figure 1. The finger-engaging portions 12 are fully exposed and available to the fingers of the user. The rod 20 may be suitably adjusted in the nut 23 to insure that the parts are in the proper position in which they are shown in Figure 1.

When the user wishes to use the device he merely draws the outer ends of the levers 10, 11 together by gripping with the fingers the finger portions 12 of the two levers. The result is a camming action of the cam portions 13 of the levers along the opposed converging portions 13a of the tweezers jaws. The initial result is to force the opposed surfaces 30 together. Thereafter, a continued grip on the finger-pieces 12 of the levers 10 and 11 results in a sudden snap action against the spring 26. If the user positions the opposed gripping surfaces 30 about a hair before or at the time he begins to squeeze in on the finger portions of the levers 10, the result will be an initial gripping of the hair, followed by a sharp jerk of the tweezers. The result is a quick and relatively painless removal of a hair.

It will be realized that whereas I have described and shown a practical and operative de-

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vice, nevertheless many changes may be made in size, shape, number and disposition of parts without departing from the spirit of my invention. I therefore wish my description and drawings to be taken as, in a broad sense, illustrative or diagrammatic rather than as limiting me to the specific structure or structures herein described and shown.

I claim:

1. In a tweezers device, a housing formed and adapted to serve as a handle, a gripping assembly slidably mounted within said handle, for movement along a generally rectilinear path, said gripping assembly including opposed gripping members which are movable in unison, yielding means adapted normally to hold said gripping assembly in extended position, an actuating assembly for initially moving the gripping members together into gripping contact and for thereafter sharply retracting the gripping assembly after the gripping members have reached gripping position, said actuating assembly including a pair of actuating members pivoted to and within the housing and extending outwardly of the housing, and having exterior finger-receiving portions, each said actuating member being opposed to and being formed and adapted to contact one of the gripping members in camming relationship, said yielding means being adapted to permit such sharp retraction in response to the movement toward each other of the actuating members about and against the gripping members.

2. In a tweezers device, a housing formed and adapted to serve as a handle, a gripping assembly slidably mounted within said handle for movement along a generally rectilinear path, said gripping assembly including opposed gripping members which are movable in unison and a base, to which said gripping members are secured, said base being located within said handle, means for guiding said base for movement along a pre-

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determined limited path in said handle, means for normally urging said base toward one end of its possible movement along said guiding means, with the gripping members extending a maximum distance outwardly from said housing, and actuating members, movably mounted on said housing and adapted, when moved a predetermined distance toward each other, to cause a sharp retraction of the gripping members toward the interior of the housing.

3. The structure of claim 1, characterized by and including means for adjusting the initial position of said gripping assembly in relation to said housing when in extended position.

4. In a tweezers device, a pair of actuating members movable toward and away from each other, a combined casing and hollow handle within which said actuating members are housed, a gripping assembly slidably mounted, within said handle, including opposed gripping members, each said gripping member being formed and adapted to contact one of said actuating members, each pair of opposed actuating and gripping members including opposed cam portions adapted, after a predetermined approach of said actuating members toward each other, to impart a sharp inward movement of said gripping members toward the interior of said handle, and means for normally holding said gripping members in outer and non-gripping position including a spring compressed between an inner surface of said housing and said gripping assembly.

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The following references are of record in the file of this patent:

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