

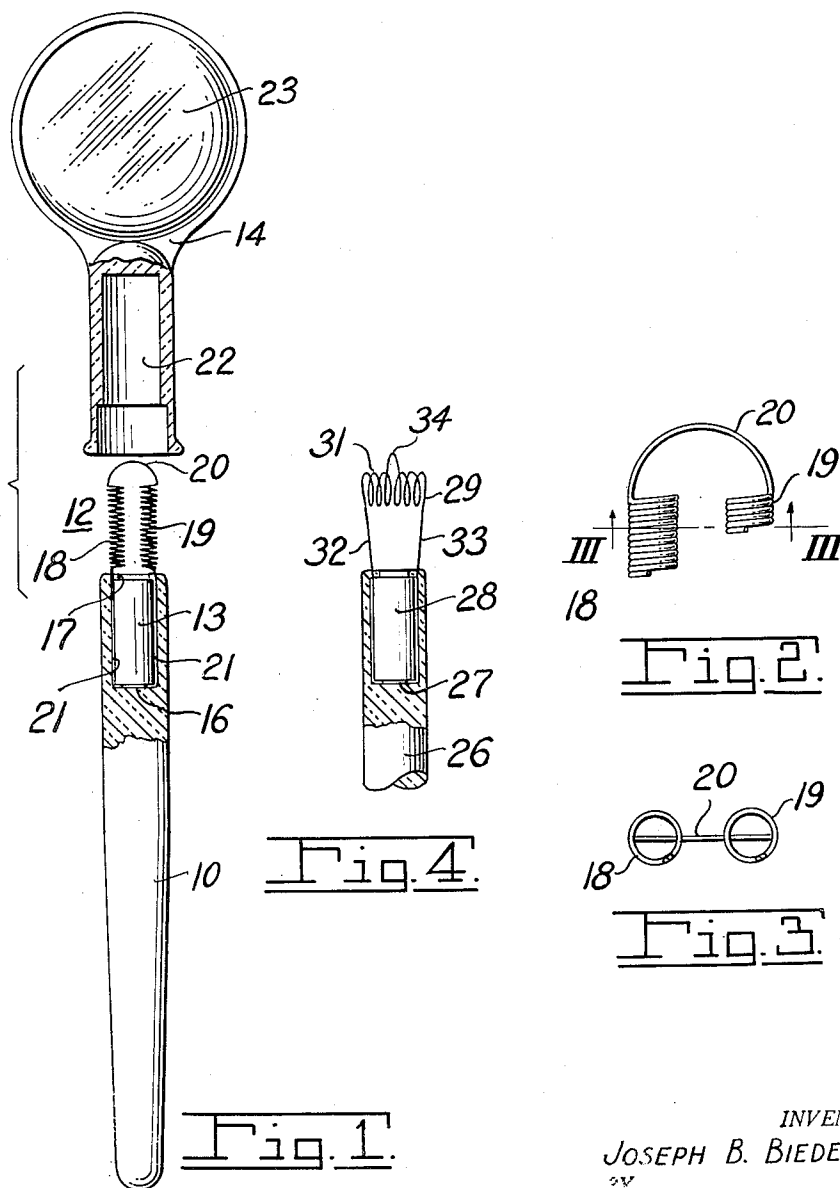
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DEVICE FOR REMOVING PARTICLES FROM THE EYE

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DEVICE FOR REMOVING PARTICLES
FROM THE EYE

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This invention relates to a device for removing particles from the surface tissue of human eye balls and, more particularly, it relates to a resilient magnetic particle remover.

An object of this invention is to provide a magnetized particle remover of this type which is softly resilient so that it can be brought into engagement with the eye ball without danger thereto.

A further object of this invention is to provide a particle remover formed of a loop of wire and having a single strand portion for engaging the particle, the ends of the single strand being supported by coiled leg portions on opposite sides of the single strand to resiliently support the single strand portion and give to it a soft touch when pressed against the eye ball.

A further object of this invention is to provide a particle remover of this type in which the ends of the legs of the loop are held firmly in engagement with a magnet bar which magnetizes the loop.

The above and other objects and features of the invention will in part be apparent and will in part be obvious from the following detailed description, and the drawing, in which:

Figure 1 is an exploded view partly in side elevation and partly in section showing a particle remover constructed in accordance with an embodiment of this invention, together with a cap or cover therefor;

Fig. 2 is a fragmentary, enlarged view, showing the eye-engaging strand of the particle remover and parts of the coiled legs supporting it;

Fig. 3 is a view in section, taken along a line III—III of Fig. 2; and

Fig. 4 is a view partly in elevation and partly in section showing a particle remover constructed in accordance with another embodiment of this invention.

In the following detailed description, and the drawing, like reference characters indicate like parts.

In Fig. 1 is shown a particle remover which includes an elongated handle 10, a loop of magnetizable wire 12, a plug 13 of magnetic material, and a cap or cover 14. The plug is retained in a socket 16 at one end of the handle by an inverted lip 17 at the mouth of the socket.

The wire loop 12 comprises legs 18 and 19 that are connected at their outer ends by a single strand 20 of the wire. The legs are coiled as shown to render the loop flexible and give to the strand 20 a soft touch or feel when applied to the surface of one's eye ball. The free ends

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of portions 21 of the legs 18 and 19 are straight and are disposed in the handle between the socket and the magnet, the extremities of the legs being bent under the magnet at the base of the socket.

The number of turns of coil employed in the legs 18 and 19 is governed by the flexibility desired. Likewise the tightness with which the coils are wound onto each other will have its effect on the resilient softness of the loop.

The loop 12 should be made of rustless or stainless magnetic metal wire so that magnetically responsive particles are attracted to the wire.

As shown in Fig. 2, the coils of coiled portions 18 and 19 may be tightly wound so that each coil engages adjacent coils. The coils form a path in which the magnetic flux is concentrated so that the single strand portion 16 is magnetized by magnet 13. However, when single strand portion 18 engages the eye ball, coiled portions 18 and 19 resiliently yield so that there is only a minimum pressure against the eye ball.

As shown in Fig. 1, the coils of coiled portions 18 and 19 commence adjacent the mouth of socket 16, and the coils are disposed inwardly of the end portions and extend substantially parallel to the axis of the handle 10.

Cap 14 includes a socket 22. Socket 22 fits over portions 18, 19, and 20 of the wire loop and can be seated on the end of handle 10. In addition, cap 14 includes a small lens 23 which can be used for inspecting the eye ball as the magnetic single strand portion of the particle remover is brought against the eye ball and into engagement with the particle.

In Fig. 4 another or modified form of loop is shown. The particle remover illustrated in Fig. 4 includes a handle 26 having a socket 27 in which is received a magnetic plug 28. Plug 28 holds the free ends of a wire loop 29 against the walls of socket 27. The central portion of the loop is coiled transversely of the axis of handle 26, as indicated at 31. The central portion is carried by legs 32 and 33. Free ends of legs 32 and 33 are held between plug 28 and the walls of socket 27. One coil of the coiled portion is displaced from the axis of the coil portion and is of a greater diameter than the other coils of the coiled portion to form a single strand 34. This strand is resiliently held in place by the coils of coiled portion 31.

The single strand portion of each particle remover of this invention can be brought into contact with the eye ball without danger of injury because the resiliently mounted coils of the single

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strand portion yield when brought against the eye ball. The magnetic plug magnetizes the single strand portion so that when it is brought into engagement with a magnetically responsive particle, the particle is magnetically held to the single strand portion.

The particle removers illustrated in the drawing and described above are subject to structural modification without departing from the spirit and scope of the appended claims.

Having described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A device for removing magnetic particles from the surface tissue of human eye balls which comprises a handle having a socket therein, a magnet disposed in said socket, and a loop of thin magnetizable wire, ends of said wire being disposed between said magnet and the walls of said socket, whereby the loop is magnetized, said loop having a single strand portion adjacent the center thereof for engaging the particles and coiled portions on opposite sides of the single strand portion, whereby the loop yields when the single strand portion contacts the eye ball in use.

2. A device for removing magnetic particles from the surface tissue of human eyeballs which comprises an elongated handle having a socket extending axially of the handle, said socket being open at one end of the handle, a magnet disposed in said socket, and a loop of thin magnetizable wire, ends of said wire being disposed between said magnet and the walls of said socket, whereby the loop is magnetized, said loop having a single strand portion adjacent the center thereof for engaging the particle and coiled portions on opposite sides of the single strand portion, whereby the loop yields when the single strand portion contacts the eyeball in use, the coils of the coiled portions commencing adjacent the mouth of the socket, said coiled portions normally extending substantially parallel to the axis of the handle, the single strand portion connecting the coiled portions.

3. A device for removing magnetic particles from the surface tissue of human eyeballs which comprises an elongated handle having a socket extending axially thereof, said socket being open at one end of the handle, a magnet disposed in said socket, and a loop of thin magnetizable wire, ends of said wire being disposed between said magnet and the walls of said socket, whereby the loop is magnetized, said loop having a single strand portion adjacent the center thereof for engaging the particles and coiled portions on opposite sides of the single strand portion, whereby the loop yields when the single strand portion contacts the eyeball in use, the coils of the coiled portions commencing adjacent the mouth of the socket, the coils being tightly wound so that the coils engage adjacent coils, said coiled portions normally extending substantially parallel to the axis of the handle, the single strand portion connecting the coiled portions.

4. A device for removing magnetic particles from the surface tissue of human eyeballs which comprises a handle having a socket therein, a magnet disposed in said socket, and a loop of thin magnetizable wire, ends of said wire being disposed between said magnet and the walls of said

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socket, whereby the loop is magnetized, said loop having a single strand portion adjacent the center thereof for engaging the particles and coiled portions on opposite sides of the single strand portion, whereby the loop yields when the single strand portion contacts the eyeball in use, the loop including substantially straight sections extending from the socket to points spaced therefrom, both of the coiled portions having a common axis extending transversely of the axis of the handle, the single strand portion being formed by a portion of one of the coils normally spaced a greater distance from the axis of the coils than the other coils.

5. A device for removing particles from the surface tissue of human eye balls which comprises an elongated handle having a socket at one end thereof, a plug disposed in said socket, and a loop of thin resilient wire, ends of said wire being disposed between said plug and the walls of said socket, the tips of the ends being turned inwardly at the base of the socket behind the plug, said wire including a single strand portion adjacent the center thereof for engaging the particle and coiled portions on opposite sides of the single strand portion, the diameter of the single strand portion being substantially greater than the diameter of the coiled portions, whereby the single strand portion is resiliently held in spaced relation to the handle and plug.

6. A device for removing particles from the surface tissue of human eye balls which comprises a handle and a loop of thin resilient wire, ends of said wire being attached to said handle, said wire including a single strand portion adjacent the center thereof for engaging the particle and coiled portions on opposite sides of the single strand portion, the diameter of the single strand portion being substantially greater than the diameter of the coiled portions, whereby the single strand portion is resiliently held in spaced relation to the handle.

7. A device for removing magnetic particles from the surface tissue of human eye balls which comprises a handle having a socket therein, a magnet disposed in said socket, and a loop of thin magnetizable wire, ends of said wire being disposed between said magnet and the walls of said socket, whereby the loop is magnetized, said loop having a single strand portion adjacent the center thereof for engaging the particle, the portions on opposite sides of the single strand portion being resiliently yieldable, whereby the loop yields when the single strand portion contacts the eye ball in use.

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