No. 718,748. PATENTED JAN. 20, 1903.

F. J. BOEHM.

COMBINED TWEEZERS AND MAGNIFYING GLASS.

APPLICATION FILED MAR. 10, 1902.

NO MODEL.

FIG. 1.

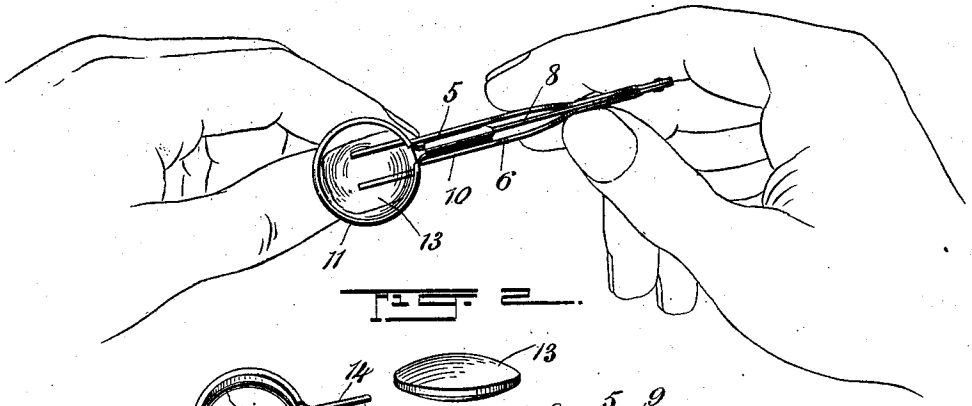


FIG. 2.

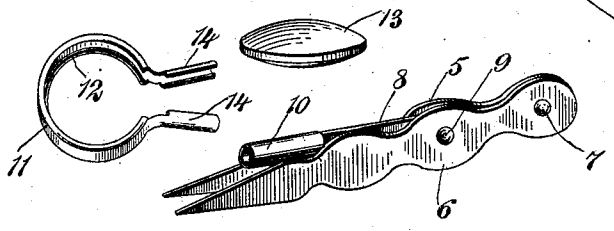


FIG. 3.

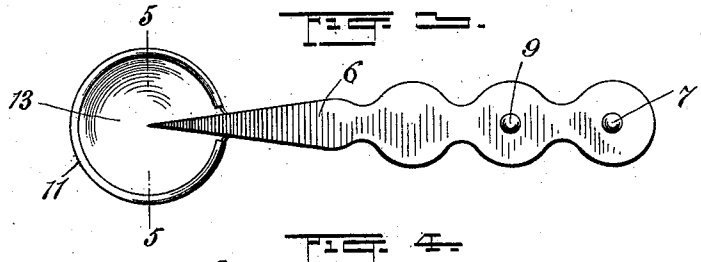


FIG. 4.

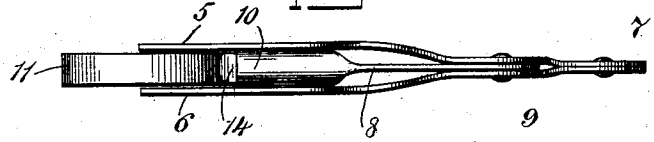
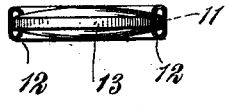


FIG. 5.



WITNESSES:

Julius H. Lutz

H. E. Bernhard

INVENTOR

Frederick J. Boehm

BY Munn & Co.

ATTORNEYS

UNITED STATES PATENT OFFICE.

FREDERICK J. BOEHM, OF BROOKLYN, NEW YORK.

COMBINED TWEEZERS AND MAGNIFYING-GLASS.

SPECIFICATION forming part of Letters Patent No. 718,748, dated January 20, 1903.

Application filed March 10, 1902. Serial No. 97,523. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK J. BOEHM, a citizen of the United States, and a resident of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented new and useful Improvements in a Combined Tweezers and Magnifying-Glass, of which the following is a full, clear, and exact description.

My invention relates to combined tweezers and magnifying-glasses; and the object that I have in view is the provision of a compact implement or tool which may easily be carried in the pocket or otherwise on the person by a workman, mechanic, or by others, said implement having its parts so combined that in its folded condition the lens or glass will be housed and protected by the members or leaves forming the tweezers.

The implement can be used for a variety of purposes which will readily suggest themselves to the mind; but I may mention that it is especially useful to workmen in locating and extracting splinters from the hand, in examining pieces of work or specimens when enlarged by the lens, &c.

In my article the lens is detachably and foldably connected to an arm which is pivoted for adjustment relative to the tweezers; but such detachable and foldable features of the lens may be separately obtained by means constituting the equivalents for the specific embodiment of the invention to be hereinafter set forth.

With these ends in view the invention consists of an implement embodying certain novel features of construction, arrangement, and adaptation in the several parts thereof, as will be hereinafter more fully described, and particularly defined by the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view illustrating one mode of using the improved instrument. Fig. 2 is a perspective view illustrating the several parts detached one from the other. Fig. 3 is a plan view of the implement in its folded condition. Fig. 4 is an edge elevation of the instrument shown by Fig. 3, and Fig. 5 is a cross-section through the lens and its holder in the plane of the dotted line of 5 5 of Fig. 3.

The tweezers consist of the members 5 6, which are united at their inner or rear ends by means of a rivet 7 or its equivalent. The members of the tweezers are pointed or tapered toward their operative ends, as shown by Figs. 2 and 3, and, as is usual in devices of this character, the members are made of elastic material, so that they will spring apart and normally assume the positions indicated by Fig. 4.

8 designates an adjustable lens-carrying arm, the same consisting of a thin flat piece of metal arranged to be interposed between the members of the tweezers and having its inner end pivoted, as at 9, to the tweezers. I prefer to make this arm 8 shorter than the tweezers, and the free end portion of the arm is provided with a socket 10, the same being preferably of the tubular form shown by Fig. 2 and indicated in Figs. 1 and 4. This socket is adapted to detachably and adjustably receive the lens-holder 11, and this lens-holder is carried by the arm 8, so as to be adjustable therewith in a direction toward and from the tweezers, although the lens-holder may itself be adjusted in the socket of the arm 8 for the purpose of placing said lens-holder in a position which enables the arm and the lens-holder to be folded in an exceedingly compact relation to the tweezers.

The lens-holder 11 is made from a strip or length of sheet metal which is curved in cross-section in order to provide an internal seat 12 for the edge portion of the lens 13, as shown more clearly by Figs. 2 and 5. The curled edge on the inside of the lens-holder 11 is adapted to snugly embrace the edge portion of the lens in order to firmly retain said lens in the holder, thus dispensing with lugs, screws, or other devices for confining the lens within the metallic holder. This holder 11 has the end portions of its strip bent outwardly to form the arms 14, said arms being normally expanded or spread apart, as shown by Fig. 2, owing to the inherent elasticity of the divided holder. The arms are adapted to be brought into registering positions when the holder is closed upon the lens, and these arms form a shank to the holder, said shank

adapted to be thrust into the socket 10 of the pivoted arm 8. The arms 14 are curved in cross-section, also as shown by Fig. 2, and the elasticity of the holder makes the curved arms frictionally engage with the inner surface of the holder, thus retaining the holder in proper engagement with the socket of the pivoted arm.

In assembling the parts of my implement the lens is first slipped within the curled internal edge 12 of the holder, and the arms 14 of said holder are then pressed together, so as to close the holder upon the lens. In this condition of the holder the shank formed by said arms 14 may be thrust into the socket 10, and the lens-holder is thus retained in its closed position by the confinement of its arms within the socket. The lens-holder is thus attached to the pivoted arm in a manner to partake of the adjustment of said arm 8 relative to the tweezers. It is evident that the lens and the holder may be turned for the lens to assume a position wherein one edge of the lens-holder is presented opposite to the space between the members of the tweezers, and the pivoted arm 8 with the lens attached thereto may now be folded between the members of the tweezers and to the positions shown by Figs. 3 and 4, thereby compactly disposing the arm and the lens with relation to and between the leaves or members of the tweezers. In this condition the implement can be carried in the pocket or on the person in a very convenient manner; but when it is desired to use the implement the arm 8 can be swung outwardly on its pivot 9 and the lens-holder can be turned to a position crosswise of the tweezers, as shown by Fig. 1. The distance of the lens from the tweezers may easily be regulated by moving the arm 8, and the lens is adapted to assume an operative position across the free pointed ends of the tweezers. This relative arrangement of the tweezers and the lens enables a mechanic or other person to easily inspect an object held between the tweezers. For instance, a mechanic using the device can hold a machine-screw in the tweezers and by observation with the lens he can determine whether the threads of the screw are properly formed on the article. Again, the lens enables a person to enlarge a part of the hand or fingers into which may be embedded a splinter of wood or other material, and having located the splinter a person is able to conveniently extract the same by manipulating the tweezers, the lens and the tweezers being so related that the latter can be easily manipulated while the splinter is under observation. Of course the article can be used by other persons than mechanics and for a variety of useful purposes. The device is extremely simple in construction, efficient in operation, cheap in manufacture, and in event of injury to or breakage of the lens it can easily be replaced by withdrawing the shank of the holder 11 from the socket 10 of the pivoted arm, after which a new lens can be placed in the holder and the shank of said holder replaced in the socket.

One extremely useful adaptation of my invention resides in the fact that barbers and others may conveniently extract hairs from the face, &c.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. An implement of the class described, comprising tweezers formed by a pair of leaves or members, an adjustable arm pivoted to said tweezers, and a lens carried by said arm and foldable between the leaves or members of said tweezers.

2. An implement of the class described, comprising tweezers formed by a pair of leaves or members, a carrying-arm foldable within said leaves or members of the tweezers, and a lens having an adjustable connection with said carrying-arm, said lens being shiftable to a position at right angles to the tweezers and to a position parallel to the plane of the members forming said tweezers.

3. An implement of the class described, comprising tweezers formed by a pair of leaves or members, a carrying-arm pivoted to said tweezers, a lens-holder having a pivotal connection with said arm and foldable therewith between the members or leaves of said tweezers, and a lens in said holder.

4. An implement of the class described, comprising a pair of tweezers, a carrying-arm pivoted to the tweezers provided with a socket, an expansible lens-holder having a divided or split shank fitted detachably and turnably within said socket of the carrying-arm, and a lens held in said holder.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FREDERICK J. BOEHM.

Witnesses:
C. L. J. LAHRSEN,
EMIL J. KRAENSEL.