W. A. JONES.

DEVICE FOR REMOVING FOREIGN MATTER FROM THE EYES.

APPLICATION FILED MAY 5, 1911.

1,020,985. Patented Mar. 26, 1912.

FIG. 1

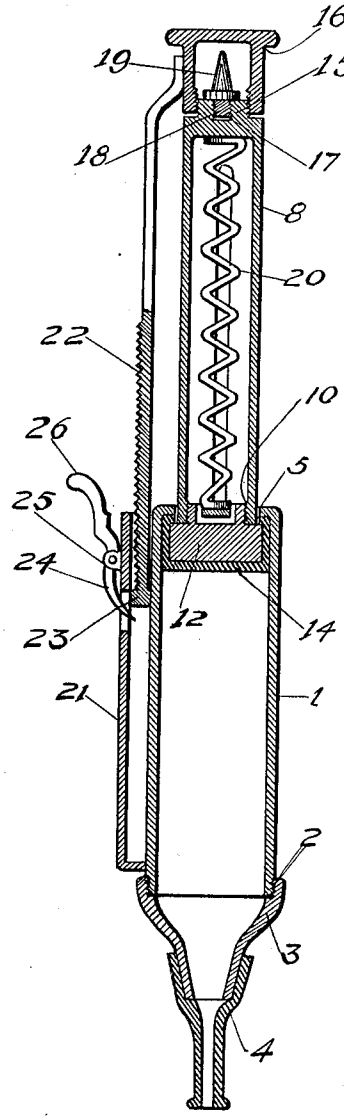


FIG 2.

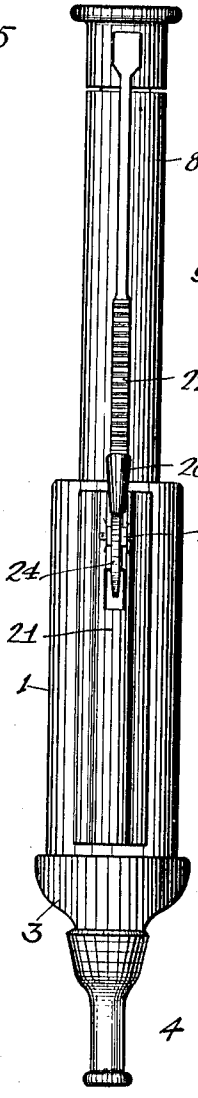


FIG. 4.

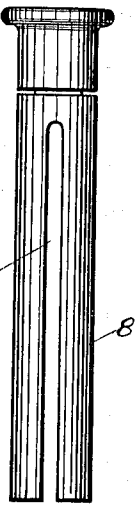
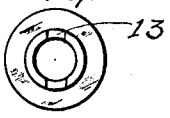


FIG. 5.

FIG. 6.



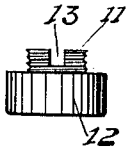


FIG. 7

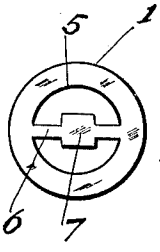


FIG. 8.

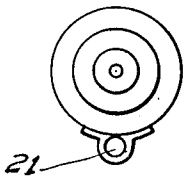


FIG. 3

WITNESSES:

Erich Burkly

K. A. Butler

INVENTOR.

W. A. JONES

BY H. C. Evert & Co.

ATTORNEYS

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM A. JONES, OF SHARON, PENNSYLVANIA.

DEVICE FOR REMOVING FOREIGN MATTER FROM THE EYES.

1,020,985. Specification of Letters Patent. Patented Mar. 26, 1912.

Application filed May 5, 1911. Serial No. 625,159.

To all whom it may concern:

Be it known that I, WILLIAM A. JONES, a citizen of the United States of America, residing at Sharon, in the county of Mercer and State of Pennsylvania, have invented certain new and useful Improvements in Devices for Removing Foreign Matter from the Eyes, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to a device for removing foreign matter from eyes, and the primary object of my invention is to provide a device that can be advantageously used for extracting foreign matter from eyes by utilizing vacuum or suction and a magnet.

Another object of this invention is to provide a simple and inexpensive instrument that can be easily and safely manipulated for removing particles of metal, dirt or other matter from an eye, without injuring the eye or causing any pain.

A further object of the invention is to provide an instrument of the above type consisting of comparatively few parts easily and quickly assembled and maintained in a sanitary condition.

With the above and other objects in view the invention resides in the novel construction, combination and arrangement of parts to be hereinafter specifically described and then claimed.

Reference will now be had to the drawing wherein like numerals designate corresponding parts throughout the several views, in which:—

Figure 1 is a vertical sectional view of the device. Fig. 2 is a front elevation of the same. Fig. 3 is a bottom plan of the device. Fig. 4 is a side elevation of a tubular piston adapted to form part of the device. Fig. 5 is a cross sectional view of the same. Fig. 6 is a plan of a piston head. Fig. 7 is a side elevation of the same, and Fig. 8 is a plan of the cylinder of the device.

The reference numeral 1 denotes a cylinder having the lower end thereof open and exteriorly screw threaded, as at 2 to receive a nipple 3 provided with a detachable suction head 4, preferably made of rubber or other soft material. The upper end of the cylinder 1 has an annular inwardly projecting flange 5 and a transverse web 6 provided with a central bearing 7.

The reference numeral 8 denotes a tubular piston rod having diametrically opposed walls thereof provided with longitudinal slots 9 adapted to provide clearance for the transverse web 6 of the upper end of the cylinder 1. The lower portions of the rod 8 are screw threaded, as at 10 to receive the connection 11 of a piston head 12, said connection being slotted, as at 13 to provide clearance for the web 6. The piston head 12 has a cover 14, preferably made of rubber, serving functionally as a packing for the piston head within the cylinder 1. The upper end of the rod 8 is closed and provided with an exteriorly threaded boss 15 adapted to receive a hollow cap 16. The boss 15 has a socket 17 with the walls thereof screw threaded to receive the exteriorly screw threaded shank 18 of a magnet 19.

The reference numeral 20 denotes a coiled compression spring arranged within the tubular piston rod, said spring having the upper convolution thereof suitably connected to the closed end of the piston rod and the lower convolution thereof suitably connected to the bearing 7, said spring normally maintaining the piston rod in a raised position with the piston head 12 in the upper end of the cylinder 1.

The cylinder 1 has the outer side thereof provided with a longitudinal casing 21 having the upper end thereof opened at the upper end of the cylinder and the lower end thereof closed in proximity to the lower end of said cylinder. Extending into the casing 21 is the lower end of a rack 22 having the upper end thereof soldered or otherwise connected to the cap 16. The lower end of the cap 22 has a guide head 23 within the casing 21, and said rack is located in a lowered position within said casing by a pivoted dog 24 pivotally mounted between apertured lugs 25, carried by the casing 21. The upper end of the dog is weighted, as at 26 whereby said dog will be normally retained either in engagement with the rack 22 or with the lower end thereof protruding into the casing 21.

Operation:—To use the instrument to produce the suction or vacuum in the nipple 3, the piston rod 8 is lowered within the cylinder 1 and is retained in a lowered position by the dog 24 engaging the rack 22. When held in this position the spring 20 is under tension. The nipple 3 can now be placed in proximity to an eye and over the particle of matter to be removed. By then moving the dog 24 the rack 22 is released

and the spring 20 immediately elevates the piston head and produces a suction or vacuum in the cylinder 1, which extracts the particle of matter from the eye. When it is desired to use the magnet 19, the cap 16 is removed, the piston 8 lowered until the piston head protrudes from the lower end of the cylinder. The piston head is then unscrewed from the piston 8, the piston elevated until the lower end thereof is above the cylinder 1, and then the piston 8 is unscrewed from the cap 16. The magnet 19 can be placed very close to the piece of steel or metal to be removed from the eye and the same extracted.

The device in its entirety can be made of light and durable metal, hard rubber or any suitable material, and while in the drawing there is illustrated a preferred embodiment of the invention, it is to be understood that the structural elements thereof are susceptible to such changes as fall within the scope of the appended claims.

What I claim is:—

1. A device of the type described comprising a cylinder, a nipple carried by the lower end thereof, a slotted tubular piston rod movably arranged in said cylinder, a piston head carried by the lower end thereof, a compression spring arranged within said piston rod upon the upper end of said cylinder, a casing carried by said cylinder, a rack movable with said piston rod and adapted to slide in said casing, and a dog carried by said casing and adapted to retain said rack in a lowered position within said casing.

2. A device of the character described comprising a cylinder provided at one end with a nipple and at its other end formed with a transversely-extending web, a piston, a spring controlled slotted piston rod straddling said web and operating in said cylinder, and means for arresting movement of said piston.

3. A device for removing foreign matter from the eyes comprising a cylinder provided at one end with a nipple and at its other end with an inwardly-extending annular flange having a transverse web integral therewith, a piston, and a spring controlled slotted piston rod straddling said web and operating within said cylinder.

4. A device for removing foreign matter from the eyes comprising a cylinder provided at one end with a nipple and at its other end with an inwardly-extending annular flange having a transverse web integral therewith, a piston, a spring controlled slotted piston rod straddling said web and operating within said cylinder, and means for arresting movement of said piston.

5. A device for removing foreign matter from the eyes comprising a cylinder provided at one end with a nipple and at its other end with a transversely-extending web constituting a guide, a piston, a piston rod straddling said guide and having a head operating within said cylinder, a spring for shifting the piston rearwardly, and means for arresting outward movement of a piston.

In testimony whereof I affix my signature in the presence of two witnesses.

WILLIAM A. JONES.

Witnesses:
G. W. TAMPLIN,
ROY NEVILLE.