No. 813,434. PATENTED FEB. 27, 1906.

L. W. JONES.

STRAINER.

APPLICATION FILED MAY 2, 1905.

FIG. 1

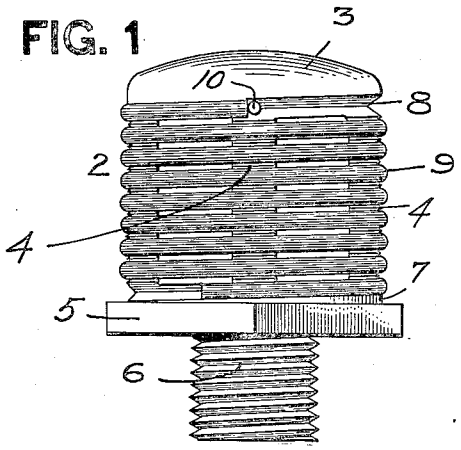


FIG. 2

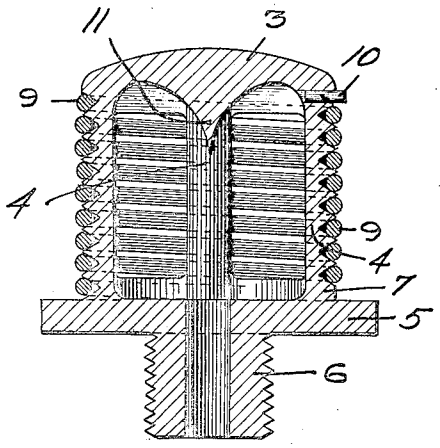


FIG. 3

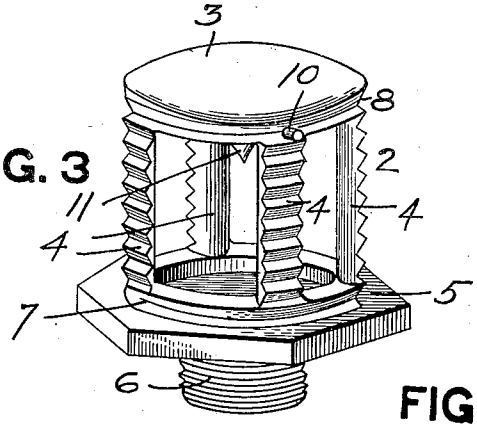


FIG. 4

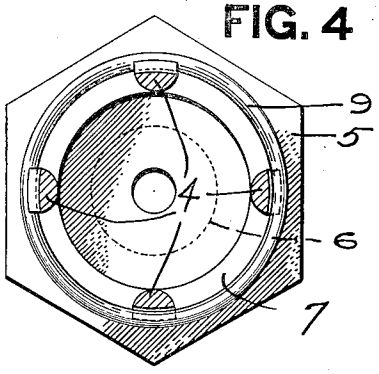
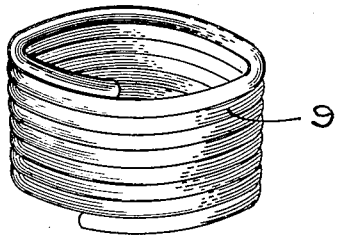


FIG. 5



WITNESSES.

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STRAINER.

No. 813,434. Specification of Letters Patent. Patented Feb. 27, 1906.

Application filed May 2, 1905. Serial No. 258,542.

To all whom it may concern:

Be it known that I, LLEWELLYN W. JONES, a resident of Sewickley, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Strainers; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to strainers or nozzles for use in connection with filters or for other purposes for which they may be found applicable.

The object of my invention is to provide a strainer or nozzle of the slotted type which is simple in construction and not liable to clog up, while at the same time one in which the parts are detachable, so that provision is made for readily cleaning the strainer and for substituting a new part for an old one without having to discard the entire strainer.

To these ends my invention comprises, generally stated, a strainer or nozzle comprising a suitable rigid skeleton frame and a helix removably secured to the frame, leaving intervening spaces between the several coils for the passage of the fluid.

To enable others skilled in the art to make and use my invention, I will describe the same more fully, referring to the accompanying drawings, in which—

Figure 1 is a view in elevation of my improved strainer. Fig. 2 is a vertical section. Fig. 3 is a view of the frame. Fig. 4 is a cross-section. Fig. 5 is a view of the helix.

Like numerals indicate like figures in the drawings.

In the drawings the numeral 2 designates a suitable strainer body or frame, which may be formed of aluminium, bronze, brass, or other material suitable for the purpose. This frame may be cast in the ordinary manner and preferably comprises the head or cap 3, the ribs 4, connecting said cap with the base 5, which is polygonal, so as to be readily grasped by a wrench or like tool. A threaded neck 6 projects from the base 5, by means of which the strainers are screwed into a filter pipe or plate in the customary way. On the base 5 there is the threaded ring 7, while the cap 3 is also provided with the threads 8. On the inside of the cap is the spreading-cone 11, which acts to throw the water outwardly and upwardly through the coil when the water is reversed in cleaning a filter.

The helix 9, which may be formed of wire of any desired cross-section preferably drawn cold, so as to present a hard surface with a highly-polished finish, is adapted to be screwed down over the cap 3, so as to engage the ribs 4 and the ring 7. In the cap 3 is the pin or stud 10, which acts to prevent the unscrewing of the coil when in use. To start the coil on the thread of the frame, the pin is inserted between the lower coil, and as the coil descends the pin enters each coil until the coil has passed said pin and assumes the position shown in Fig. 1. To remove the coil, it is necessary to bend the upper end over the pin, so that the pin gets between the first helix. In this way each coil of the helix 9 engages one of the pitches of the threaded frame, so as to make a continuous structure or cage, the spaces between the coils providing for the free passage of the water or other fluid. The spaces between the coils may of course be varied by using wire of smaller gage or by increasing the size of the pitch of the threads.

When my improved strainer is in use in connection with a filter, the filtered water will pass readily through the spaces between the helices, and by having the wire of the coils round in cross-section there is practically no chance for the lodgment of sand or other foreign matter between the coils to clog up the openings and prevent the proper flow of the water. Furthermore, owing to the smooth finished surface of the wire there are no rough spots to which the sand or other foreign material can adhere, as in cases where the slots are formed by cutting into a solid body, which leaves a ragged edge for the lodgment of sand, &c. If it is found desirable to remove the helix for purposes of cleaning or for the purpose of replacing it by a new one, it is only necessary to unscrew the coil, leaving the frame or body of the strainer intact, and apply a new coil, with the result that a new strainer is had for all practical purposes at a very small cost.

In unscrewing the coil the pin 10 passes between each coil and acts to remove any sand which may have collected between the coils, so that the strainer is cleaned by the removal of the coil, as well as in screwing it on.

The pitch of the threads may be varied to suit different conditions in order to give openings of different sizes or the gage of the wire might be changed, with the same result.

In cleaning the filter-bed it is customary to receive the flow of water so as to send it up through the strainers. In such case the force

of the water will tend to spread or dilate the coils slightly, owing to their resiliency, and this movement will act to loosen and dislodge any material which may have collected between the coils, so that the strainer is practically self-cleansing.

What I claim is—

1. A strainer or nozzle comprising top and bottom body portions, ribs rigidly connected to said top and bottom portions, said ribs having helically-arranged grooves therein, and a helix engaging said grooves and readily removable therefrom.

2. A strainer, or nozzle, comprising a body portion, or frame, a helix engaging said frame, and a stop on said frame adapted to engage said helix.

3. A strainer, or nozzle, comprising a body portion, or frame, a helix engaging said frame, and a pin in said frame adapted to engage the upper end of said helix.

4. A strainer, or nozzle, comprising a body portion, or frame, a helix engaging said frame, and means for cleaning the spaces between said helix in removing or applying same.

5. A strainer, or nozzle, comprising a body portion, or frame, a helix engaging said frame, and a projection on said frame adapted to enter the space between said helices.

In testimony whereof I, the said LLEWELLYN W. JONES, have hereunto set my hand.

LLEWELLYN W. JONES.

Witnesses:

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G. C. RAYMOND.